10572826

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* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	DEC 01	ChemPort single article sales feature unavailable
NEWS 3	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 4	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 5	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS 6	FEB 10	COMPENDEX reloaded and enhanced
NEWS 7	FEB 11	WTEXTILES reloaded and enhanced
NEWS 8	FEB 19	New patent-examiner citations in 300,000 CA/CAplus patent records provide insights into related prior art
NEWS 9	FEB 19	Increase the precision of your patent queries -- use terms from the IPC Thesaurus, Version 2009.01
NEWS 10	FEB 23	Several formats for image display and print options discontinued in USPATFULL and USPAT2
NEWS 11	FEB 23	MEDLINE now offers more precise author group fields and 2009 MeSH terms
NEWS 12	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS 13	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters
NEWS 14	FEB 25	USGENE enhanced with patent family and legal status display data from INPADOCDB
NEWS 15	MAR 06	INPADOCDB and INPAFAMDB enhanced with new display formats
NEWS 16	MAR 11	EPFULL backfile enhanced with additional full-text applications and grants
NEWS 17	MAR 11	ESBIOBASE reloaded and enhanced
NEWS 18	MAR 20	CAS databases on STN enhanced with new super role for nanomaterial substances
NEWS 19	MAR 23	CA/CAplus enhanced with more than 250,000 patent equivalents from China
NEWS 20	MAR 30	IMSPATENTS reloaded and enhanced
NEWS 21	APR 03	CAS coverage of exemplified prophetic substances enhanced
NEWS 22	APR 07	STN is raising the limits on saved answers
NEWS 23	APR 24	CA/CAplus now has more comprehensive patent assignee information
NEWS 24	APR 26	USPATFULL and USPAT2 enhanced with patent assignment/reassignment information
NEWS 25	APR 28	CAS patent authority coverage expanded

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 NEWS 26  APR 28  ENCOMPLIT/ENCOMPLIT2 search fields enhanced
 NEWS 27  APR 28  Limits doubled for structure searching in CAS
                  REGISTRY
 NEWS 28  MAY 08  STN Express, Version 8.4, now available
 NEWS 29  MAY 11  STN on the Web enhanced
 NEWS 30  MAY 11  BEILSTEIN substance information now available on
                  STN Easy
 NEWS 31  MAY 14  DGENE, PCTGEN and USGENE enhanced with increased
                  limits for exact sequence match searches and
                  introduction of free HIT display format
 NEWS 32  MAY 15  INPADOCDB and INPAFAMDB enhanced with Chinese legal
                  status data

 NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
              AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

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* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:29:23 ON 26 MAY 2009

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files.  For example, the EXPAND
command can only be used to look at the index in a file which has an
index.  Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of
commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.22       0.22

FILE 'REGISTRY' ENTERED AT 15:29:38 ON 26 MAY 2009
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```

STRUCTURE FILE UPDATES: 25 MAY 2009 HIGHEST RN 1149058-00-3
DICTIONARY FILE UPDATES: 25 MAY 2009 HIGHEST RN 1149058-00-3

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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

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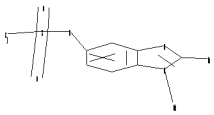
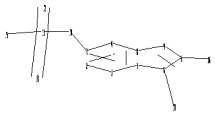
http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\Stnexp\Queries\10572826.str





chain nodes :
10 11 12 13 15 16 17
ring nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
3-10 5-16 6-17 10-11 11-12 11-13 11-15
ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9
exact/norm bonds :

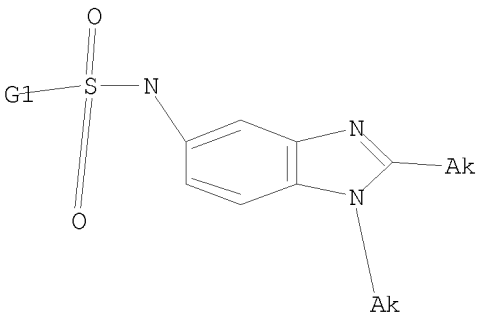
3-10 5-6 5-9 5-16 6-7 6-17 8-9 10-11 11-12 11-13 11-15
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8
isolated ring systems :
containing 1 :

G1:Ph,Cy,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS 15:CLASS 16:CLASS 17:CLASS

L1   STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1   STR



G1 Ph,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 15:29:58 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -   261 TO ITERATE

100.0% PROCESSED   261 ITERATIONS   50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS: 4251 TO   6189
PROJECTED ANSWERS: 1164 TO   2276

L2   50 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 15:30:06 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 4854 TO ITERATE

100.0% PROCESSED 4854 ITERATIONS 1329 ANSWERS
SEARCH TIME: 00.00.01

L3 1329 SEA SSS FUL L1

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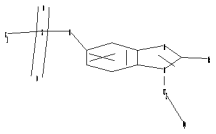
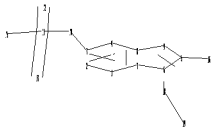
Uploading C:\Program Files\Stnexp\Queries\10572826a.str





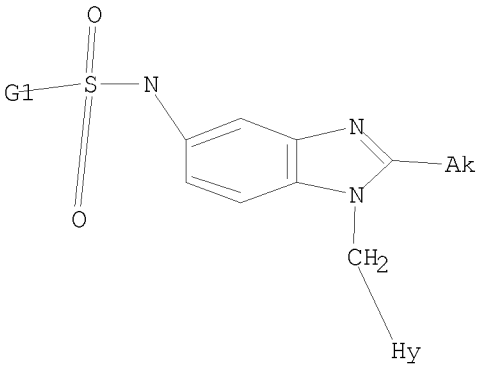
chain nodes :
10 11 12 13 15 16 18 19
ring nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
3-10 5-16 6-18 10-11 11-12 11-13 11-15 18-19
ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9
exact/norm bonds :
3-10 5-6 5-9 5-16 6-7 8-9 10-11 11-12 11-13 11-15 18-19
exact bonds :
6-18
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8
isolated ring systems :
containing 1 :

G1:Ph,Cy,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS 15:CLASS 16:CLASS 18:CLASS 19:Atom

L4 STRUCTURE UPLOADED

=> d l4
L4 HAS NO ANSWERS
L4 STR



G1 Ph,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

=> s l4
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SAMPLE SCREEN SEARCH COMPLETED - 178 TO ITERATE

100.0% PROCESSED 178 ITERATIONS 34 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2760 TO 4360
PROJECTED ANSWERS: 331 TO 1029

L5 34 SEA SSS SAM L4

=> s l4 sss full
FULL SEARCH INITIATED 15:33:50 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 3069 TO ITERATE

100.0% PROCESSED 3069 ITERATIONS 481 ANSWERS
SEARCH TIME: 00.00.01

L6 481 SEA SSS FUL L4

=> FIL HCAPLUS

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	375.12	375.34

FILE 'HCAPLUS' ENTERED AT 15:35:13 ON 26 MAY 2009

FILE COVERS 1907 - 26 May 2009 VOL 150 ISS 22
FILE LAST UPDATED: 25 May 2009 (20090525/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> s l3
L7          39 L3

=> s l6
L8          10 L6

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      24035503 PY<=2003
L9          21 L7 AND PY<=2003

=> s l8 and py<=2003
      24035503 PY<=2003
L10          1 L8 AND PY<=2003

=> d l10 ibib abs hitstr tot

L10  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:        2001:224232  HCAPLUS
DOCUMENT NUMBER:         134:266307
TITLE:                   Preparation of
                         2-arylethyl-5-arylsulfonamidobenzimidazoles as
                         tryptase inhibitors.
```
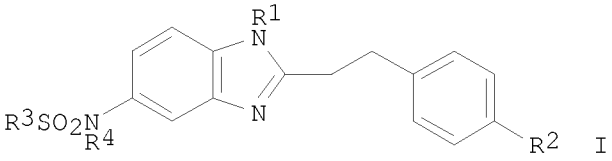

INVENTOR(S): Anderskewitz, Ralf; Braun, Christine; Briem, Hans; Disse, Bernd; Hoenke, Christoph; Jennewein, Hans Michael; Speck, Georg
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19945787	A1	20010329	DE 1999-19945787	19990924 <--
CA 2379557	A1	20010405	CA 2000-2379557	20000921 <--
CA 2379557	C	20080916		
WO 2001023360	A1	20010405	WO 2000-EP9237	20000921 <--
W: AE, AU, BG, BR, CA, CN, CZ, EE, HR, HU, ID, IL, IN, JP, KR, LT, LV, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6365584	B1	20020402	US 2000-666765	20000921 <--
EP 1220844	A1	20020710	EP 2000-960686	20000921 <--
EP 1220844	B1	20030409		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
JP 2003510310	T	20030318	JP 2001-526514	20000921 <--
AT 236887	T	20030415	AT 2000-960686	20000921 <--
ES 2192543	T3	20031016	ES 2000-960686	20000921 <--
MX 2002002622	A	20021024	MX 2002-2622	20020301 <--

PRIORITY APPLN. INFO.:
DE 1999-19945787 A 19990924
US 1999-157278P P 19991001
WO 2000-EP9237 W 20000921

OTHER SOURCE(S): MARPAT 134:266307
GI



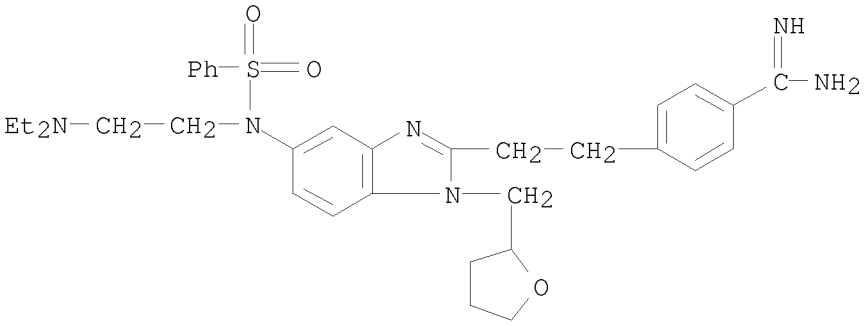
I

AB Title compds. [I; R1 = (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, phenylalkyl, heterocyclyl, heterocyclylalkyl; R2 = C(:NH)NH2, CH2NH2; R3 = Ph, PhCH2, naphthyl, furyl, benzofuryl, thienyl, benzothienyl; R4 = H, (substituted) alkyl, heterocyclyl, heterocyclylalkyl, etc.], were prepared Thus, N-[3-amino-4-(3,5-bistifluoromethylbenzylamino)phenyl]benzenesulfonamide (preparation given), p-cyanophenylpropionic acid, and POCl3 were heated together for 2 h at 100-120° to give 71.5% N-[2-[2-(4-cyanophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. This was stirred with HCl in EtOH at 0-5°

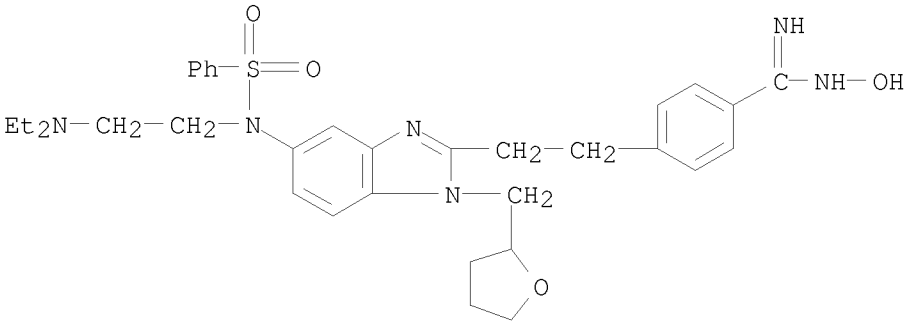
and the residue after distillation of EtOH was treated with NH3 in EtOH to give 70.3% N-[2-[2-(4-amidinophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. I inhibited tryptase with IC50 = 0.0066-0.412 μM.

IT 331766-41-7P 331766-46-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of arylethylarylsulfonamidobenzimidazoles as tryptase inhibitors)

RN 331766-41-7 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



RN 331766-46-2 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



=> d l9 ibib abs hitstr 1-10

L9 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:904287 HCAPLUS
DOCUMENT NUMBER: 137:380015

TITLE: Use of benzimidazole compounds for the treatment and prevention of arterial thrombotic diseases
INVENTOR(S): Hauel, Norbert; Stassen, Jean Marie; Wienen, Wolfgang
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma Kg, Germany
SOURCE: Ger. Offen., 4 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

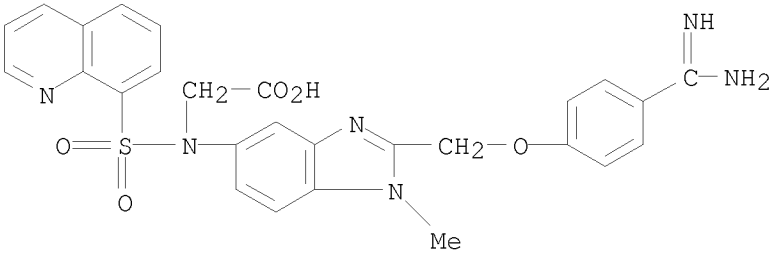
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10125478	A1	20021128	DE 2001-10125478	20010525 <--
US 20020193404	A1	20021219	US 2002-137895	20020502 <--
WO 2002096425	A1	20021205	WO 2002-EP5522	20020518 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002313473	A1	20021209	AU 2002-313473	20020518 <--

PRIORITY APPLN. INFO.:			
DE 2001-10125478	A	20010525	
US 2001-301899P	P	20010628	
WO 2002-EP5522	W	20020518	

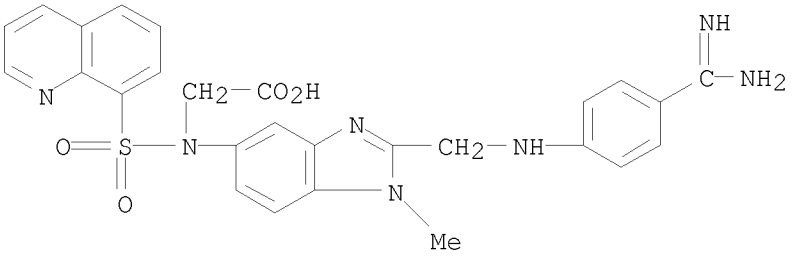
AB The invention provides a method for the treatment and prevention of arterial thrombotic illnesses, comprising the administration of an effective quantity of one of 1-methyl-2-[(4-amidinophenyl)-oxymethyl]-5-[N (hydroxycarbonylmethyl)-quinolin-8-sulfonylamino]benzimidazole and 1-methyl-2-[N-(4-amidinophenyl)-aminomethyl]-5-[N-(hydroxycarbonyl methyl)-quinolin-8-sulfonylamino]benzimidazole, their physiol. acceptable salts or their mixts. Also provided is the use of these compds. for the production of appropriate drugs.

IT 256491-29-9 256491-44-8
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(benzimidazole compds. for treatment and prevention of arterial thrombotic diseases)

RN 256491-29-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



RN 256491-44-8 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



L9 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:227325 HCAPLUS
DOCUMENT NUMBER: 136:395327
TITLE: Structure-based design of novel potent nonpeptide thrombin inhibitors
AUTHOR(S): Hauel, Norbert H.; Nar, Herbert; Priepke, Henning; Ries, Uwe; Stassen, Jean-Marie; Wienen, Wolfgang
CORPORATE SOURCE: Research Division, Boehringer Ingelheim Pharma KG, Biberach/Riss, D-88397, Germany
SOURCE: Journal of Medicinal Chemistry (2002), 45(9), 1757-1766
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:395327
AB The clin. syndromes of thromboembolism are evoked by an excessive stimulation of the coagulation cascade. In this context, the serine protease thrombin plays a key role. Considerable efforts have therefore been devoted to the discovery of safe, orally active inhibitors of this enzyme. On the basis of the X-ray crystal structure of the peptidelike thrombin inhibitor NAPAP complexed with bovine thrombin, we have designed a new structural class of nonpeptidic inhibitors employing a 1,2,5-trisubstituted benzimidazole as the central scaffold. Supported by a series of X-ray structure analyses, we optimized the activity of these compds. Thrombin inhibition in the lower nanomolar range could be achieved although the binding energy mainly results from nonpolar, hydrophobic interactions. To improve in vivo potency, we increased the overall hydrophilicity of the mols. by introducing carboxylate groups. The very polar compound BIBR 953 exhibited the most favorable activity profile in vivo. This zwitterionic mol. was converted into the double-prodrug BIBR 1048, which showed strong oral activity in different animal species. On the basis of these results, BIBR 1048 was chosen for clin. development.
IT 237750-48-0P 256491-29-9P 256491-32-4P
256491-44-8P 429658-81-1P 429658-83-3P
429658-84-4P 429658-85-5P 429658-86-6P
429658-87-7P 429658-88-8P 429658-89-9P
429658-90-2P 429658-91-3P 429658-92-4P

429658-93-5P
RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(structure-based design of novel potent nonpeptide thrombin inhibitors)
RN 237750-48-0 HCAPLUS
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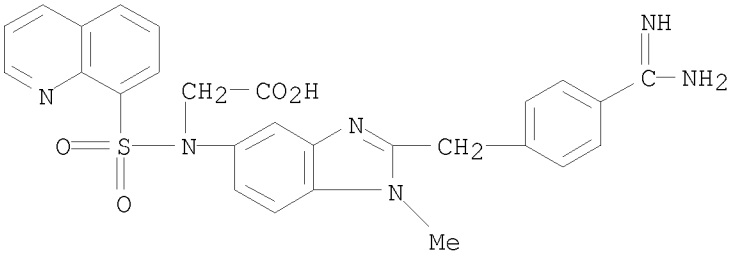
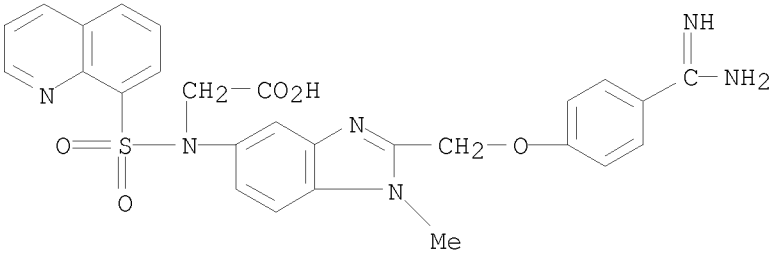
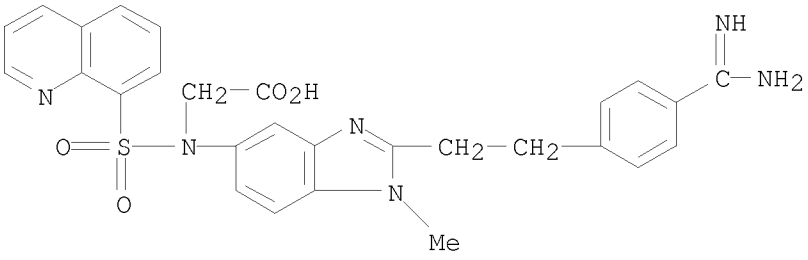


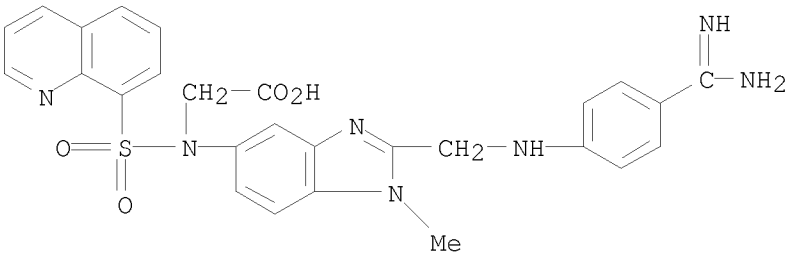
RN 256491-29-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



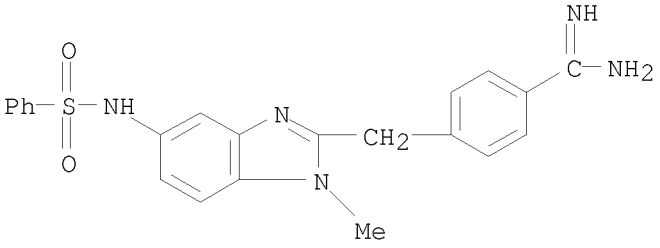
RN 256491-32-4 HCAPLUS
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



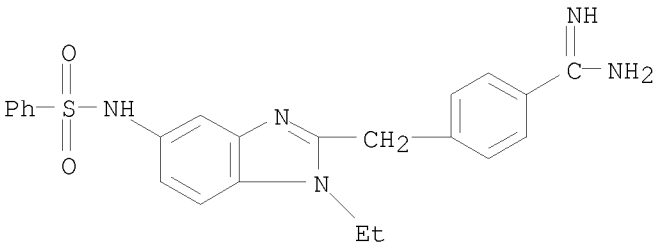
RN 256491-44-8 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



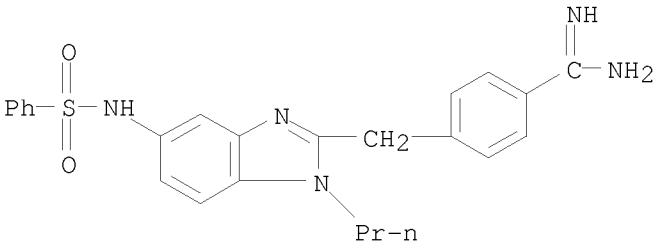
RN 429658-81-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



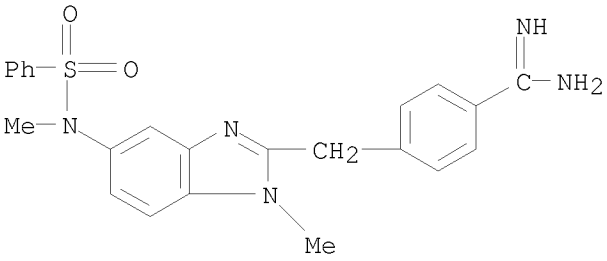
RN 429658-83-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-ethyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



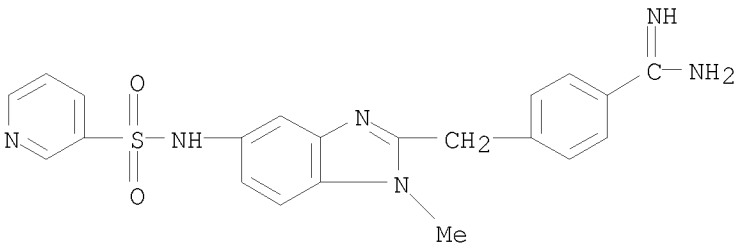
RN 429658-84-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



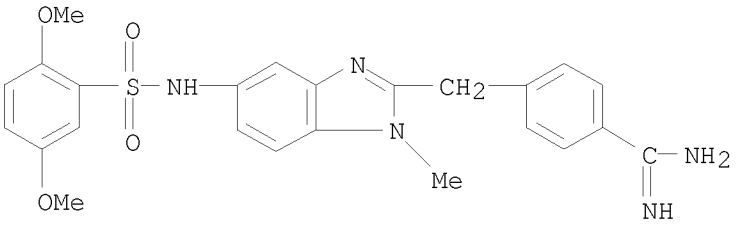
RN 429658-85-5 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[methyl(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



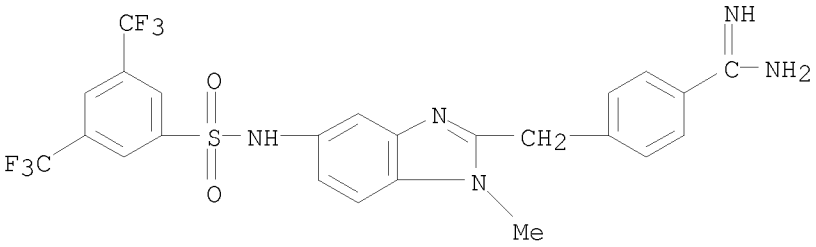
RN 429658-86-6 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(3-pyridinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



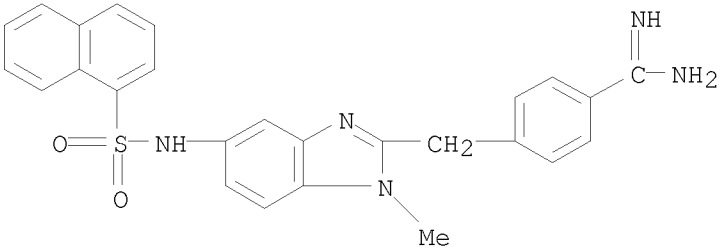
RN 429658-87-7 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[(2,5-dimethoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



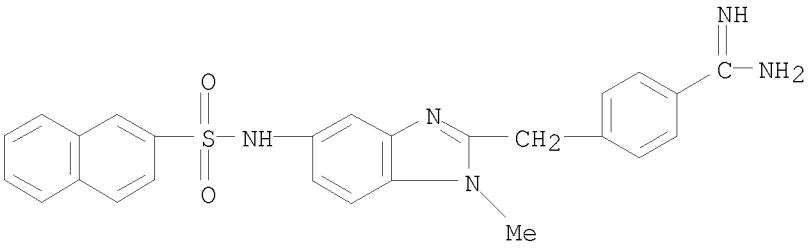
RN 429658-88-8 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[[3,5-bis(trifluoromethyl)phenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



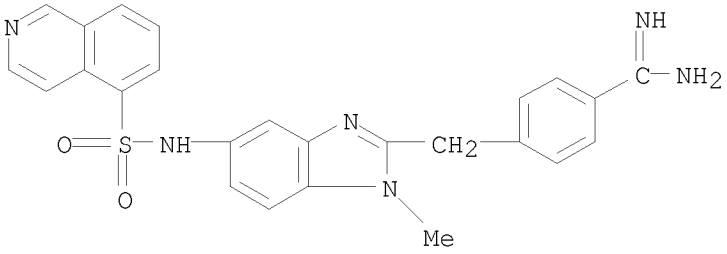
RN 429658-89-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(1-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



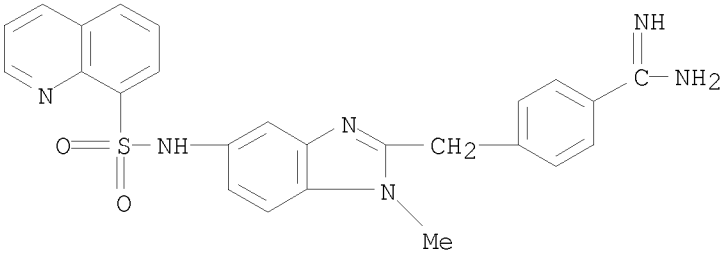
RN 429658-90-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(2-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



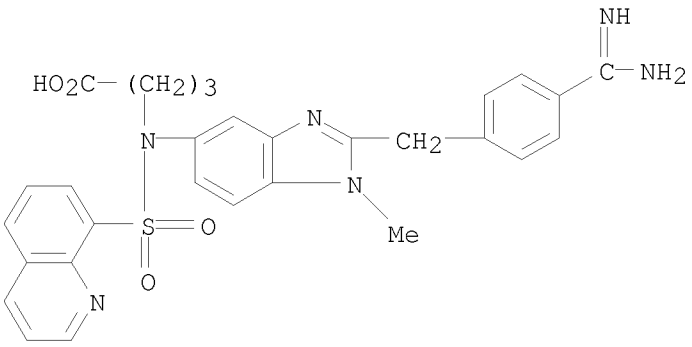
RN 429658-91-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(5-isoquinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



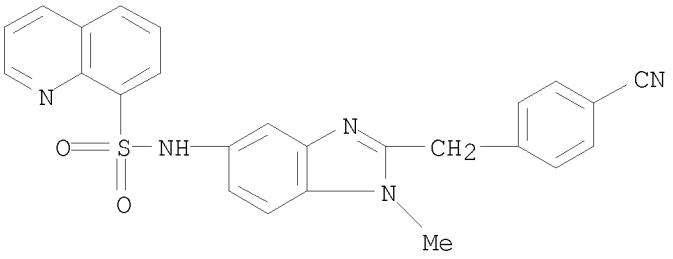
RN 429658-92-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



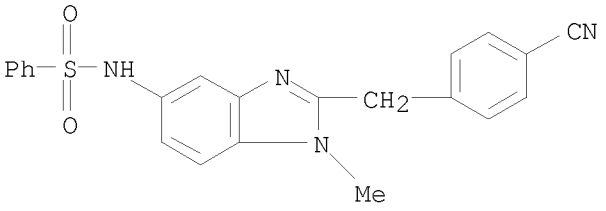
RN 429658-93-5 HCAPLUS
CN Butanoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]- (CA INDEX NAME)



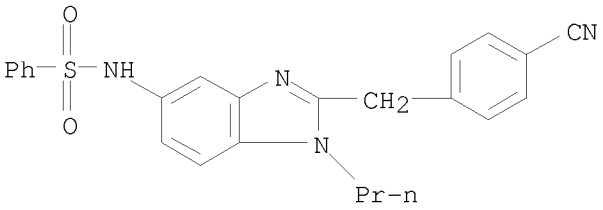
IT 237750-85-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(structure-based design of novel potent nonpeptide thrombin inhibitors)
RN 237750-85-5 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



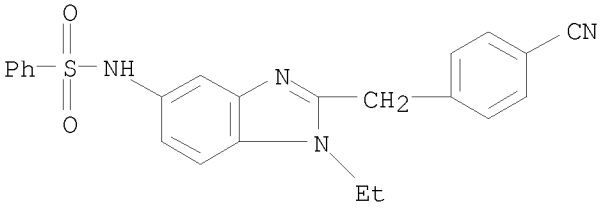
IT 236417-29-1P 237750-76-4P 237750-78-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(structure-based design of novel potent nonpeptide thrombin inhibitors)
RN 236417-29-1 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



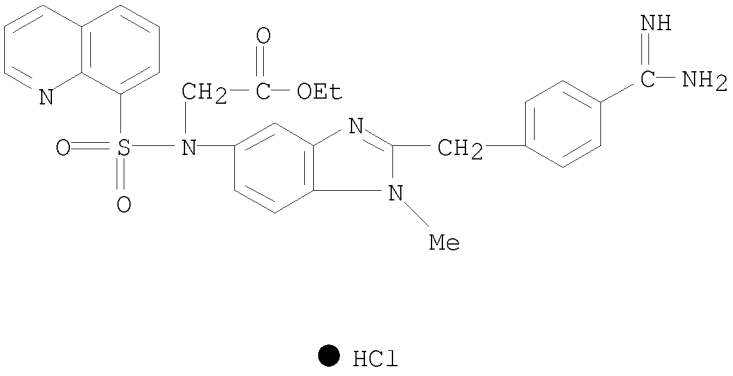
RN 237750-76-4 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-propyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



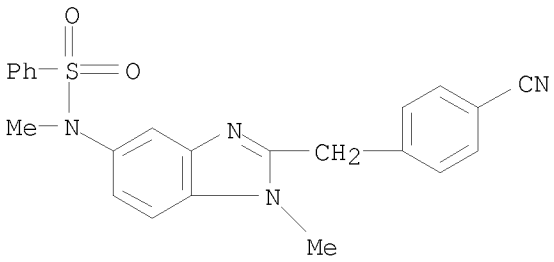
RN 237750-78-6 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-ethyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



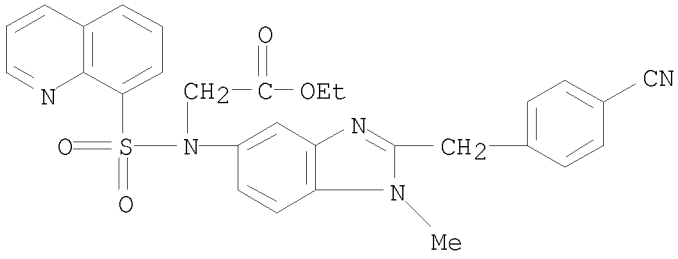
IT 236414-72-5P 237750-79-7P 237750-99-1P
256493-32-0P 850465-48-4P 850465-74-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(structure-based design of novel potent nonpeptide thrombin inhibitors)
RN 236414-72-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



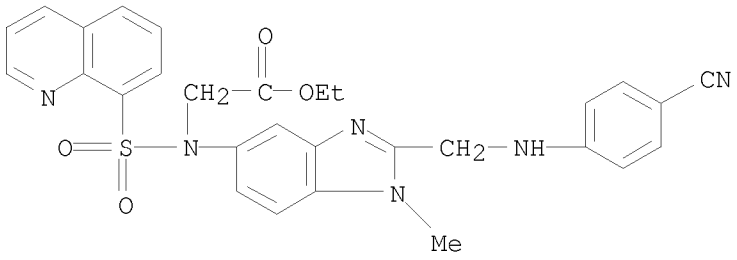
RN 237750-79-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-methyl- (CA INDEX NAME)



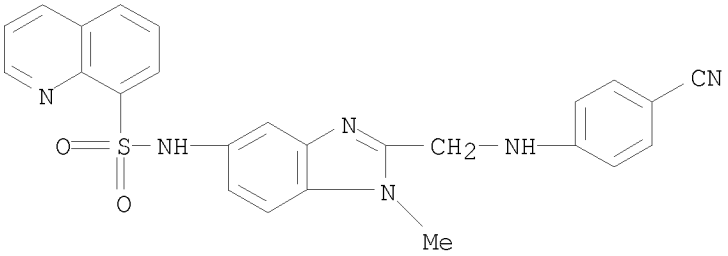
RN 237750-99-1 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



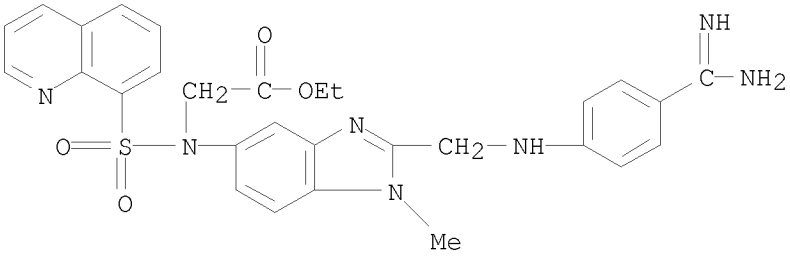
RN 256493-32-0 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 850465-48-4 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[[(4-cyanophenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 850465-74-6 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:224233 HCAPLUS
DOCUMENT NUMBER: 134:252337
TITLE: Preparation of N-[(amindinophenethyl)benzimidazolyl]benzenesulfonamides and analogs as tryptase inhibitors
INVENTOR(S): Anderskewitz, Ralf; Braun, Christine; Briem, Hans; Disse, Bernd; Hoenke, Christoph; Jennewein, Hans Michael; Speck, Georg
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 28 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19945810	A1	20010329	DE 1999-19945810	19990924 <--
CA 2382892	A1	20010405	CA 2000-2382892	20000921 <--

WO 2001023359	A1	20010405	WO 2000-EP9236		20000921 <--
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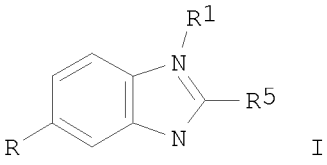
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
US 6413990	B1	20020702	US 2000-666769		20000921 <--
EP 1220845	A1	20020710	EP 2000-969275		20000921 <--
EP 1220845	B1	20030813			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY					
JP 2003510309	T	20030318	JP 2001-526513		20000921 <--
AT 247092	T	20030815	AT 2000-969275		20000921 <--
MX 2002002623	A	20021023	MX 2002-2623		20020311 <--
PRIORITY APPLN. INFO.:			DE 1999-19945810	A	19990924
			US 1999-157389P	P	19991001
			WO 2000-EP9236	W	20000921

OTHER SOURCE(S): MARPAT 134:252337

GI



I

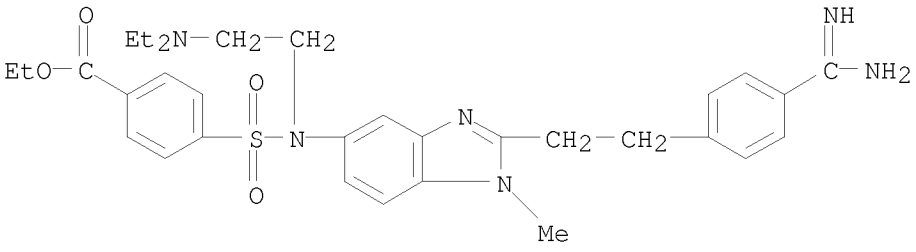
AB Title compds. (I; R5 = CH2CH2C6H4R2-4)[II; R = NR4SO2R3; R1 = (cyclo)alkyl, (un)substituted phenylalkyl, etc.; R2 = C(:NH)NH2 or CH2NH2; R3 = (un)substituted Ph, -naphthyl, -(benzo)thienyl, etc.; R4 = H, aminoalkyl, ureidoalkyl, etc.] were prepared Thus, 2-fluoro-5-nitroaniline was aminated and the product cyclocondensed with 4-(NC)C6H4CH2CH2CO2H to give, after reduction, II (R1 = Me)(III; R = NH2, R2 = cyano) which was amidated and the product converted in 4 steps to III [R = 4-(MeO2C)C6H4SO2N(CH2CH2NEt2), R2 = C(:NH)NH2]. Data for biol. activity of I were given.

IT 331449-43-5P 331449-44-6P 331449-45-7P
331449-46-8P 331449-47-9P 331449-48-0P
331449-49-1P 331449-50-4P 331449-51-5P
331449-52-6P 331449-53-7P 331449-54-8P
331449-55-9P 331449-57-1P 331449-58-2P
331449-59-3P 331449-60-6P 331449-61-7P
331449-62-8P 331449-63-9P 331449-64-0P
331449-65-1P 331449-66-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of N-[(amindinophenethyl)benzimidazolyl]benzenesulfonamides and analogs as tryptase inhibitors)

RN 331449-43-5 HCAPLUS

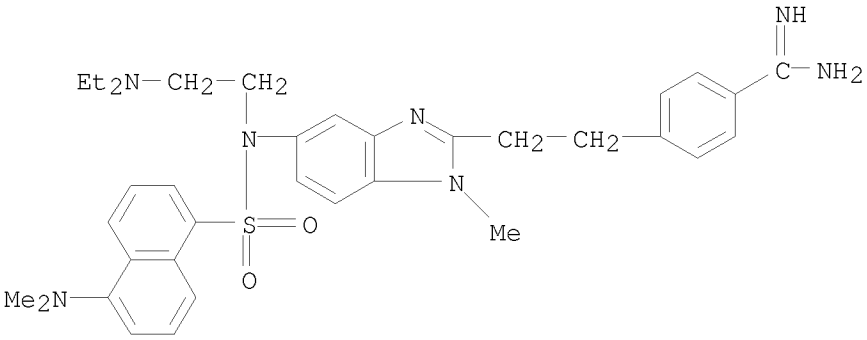
CN Benzoic acid, 4-[[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]-, ethyl ester,

hydrochloride (1:1) (CA INDEX NAME)



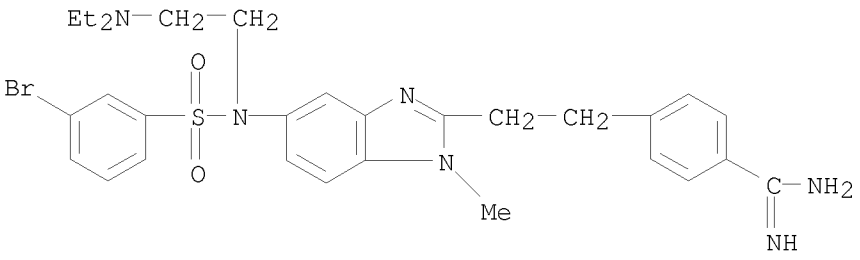
● HCl

RN 331449-44-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:2) (CA INDEX NAME)



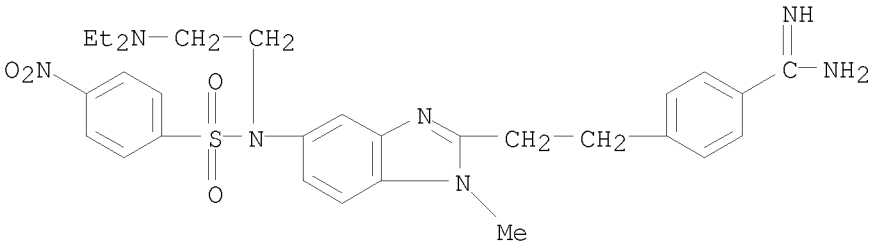
●2 HCl

RN 331449-45-7 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[(3-bromophenyl)sulfonyl][2-(diethylamino)ethyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



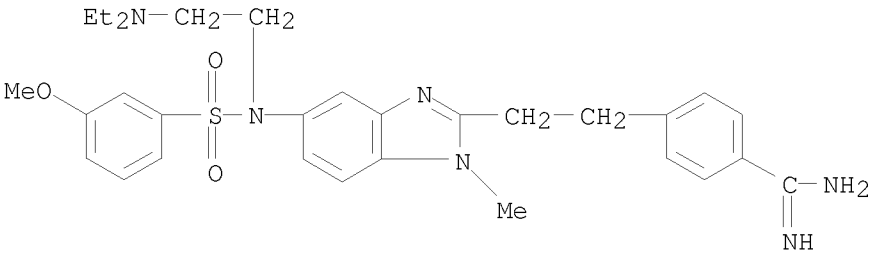
● HCl

RN 331449-46-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][(4-nitrophenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



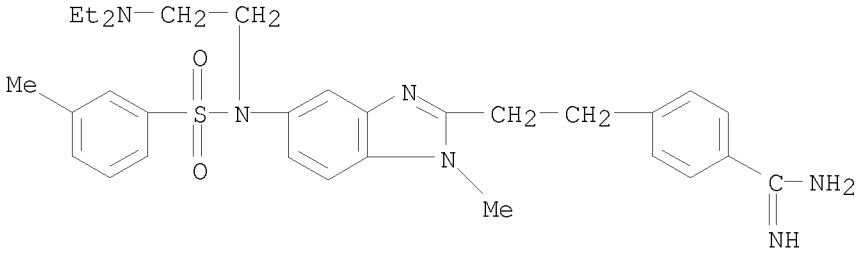
● HCl

RN 331449-47-9 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][(3-methoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



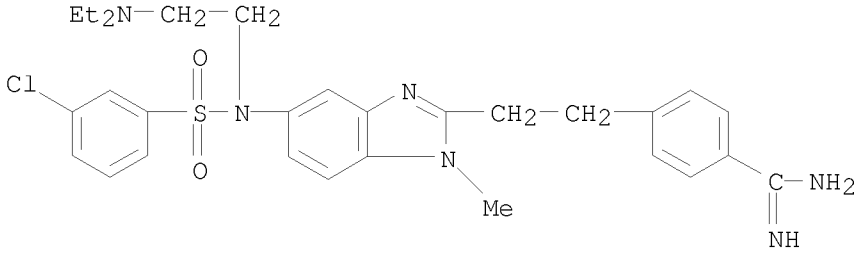
● HCl

RN 331449-48-0 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][(3-methylphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



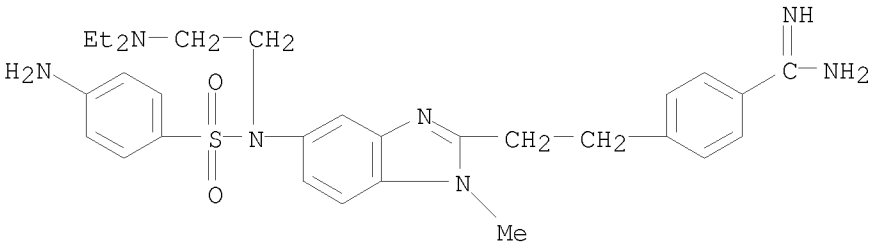
● HCl

RN 331449-49-1 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[(3-chlorophenyl)sulfonyl][2-(diethylamino)ethyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



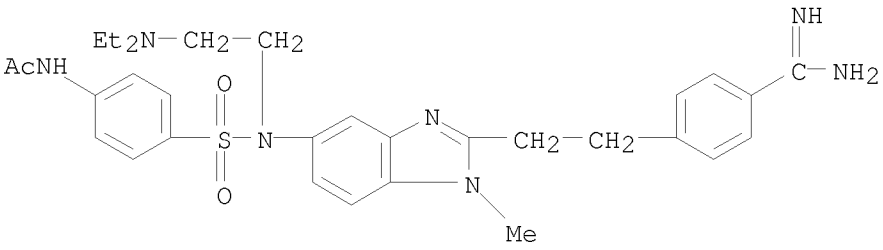
● HCl

RN 331449-50-4 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[(4-aminophenyl)sulfonyl][2-(diethylamino)ethyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:4) (CA INDEX NAME)

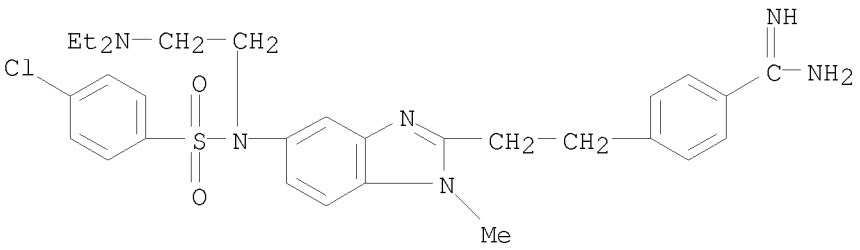


● 4 HCl

RN 331449-51-5 HCAPLUS
CN Acetamide, N-[4-[[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]phenyl]- (CA INDEX NAME)

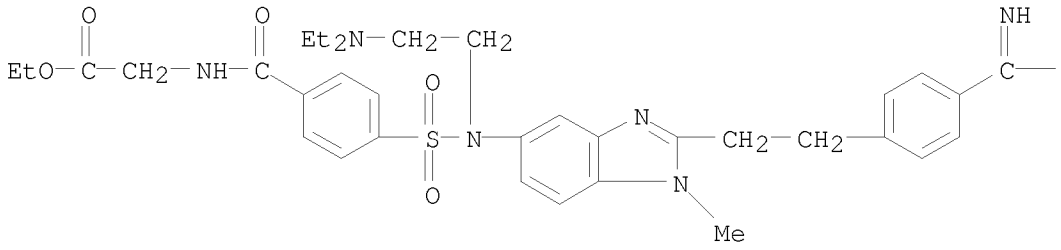


RN 331449-52-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[(4-chlorophenyl)sulfonyl][2-(diethylamino)ethyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



RN 331449-53-7 HCAPLUS
CN Glycine, N-[4-[[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]benzoyl]-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

PAGE 1-A

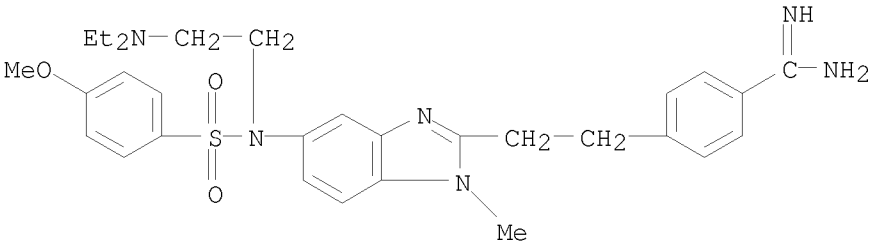


● HCl

PAGE 1-B

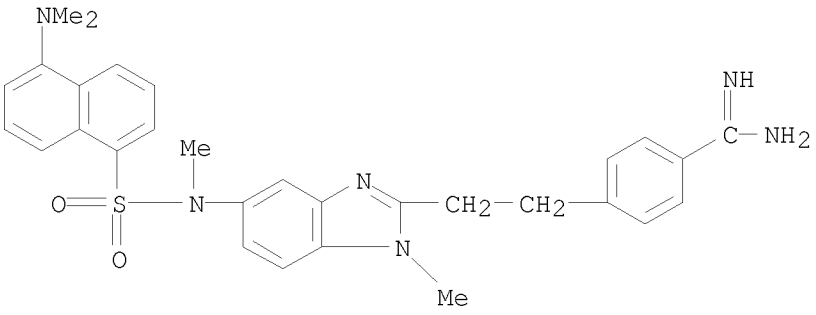
— NH_2

RN 331449-54-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][(4-methoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:3) (CA INDEX NAME)



● 3 HCl

RN 331449-55-9 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]methylamino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)

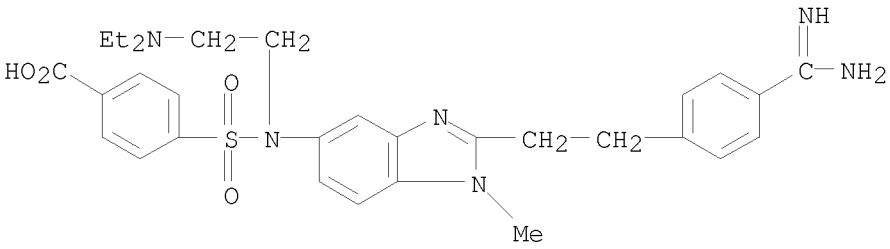


● HCl

RN 331449-57-1 HCAPLUS
CN Benzoic acid, 4-[[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]-, (2E)-2-butenedioate (1:1) (CA INDEX NAME)

CM 1

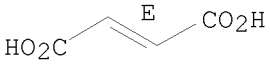
CRN 331449-56-0
CMF C30 H36 N6 O4 S



CM 2

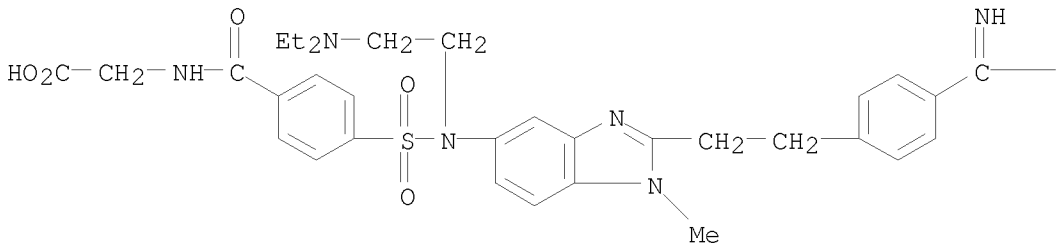
CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



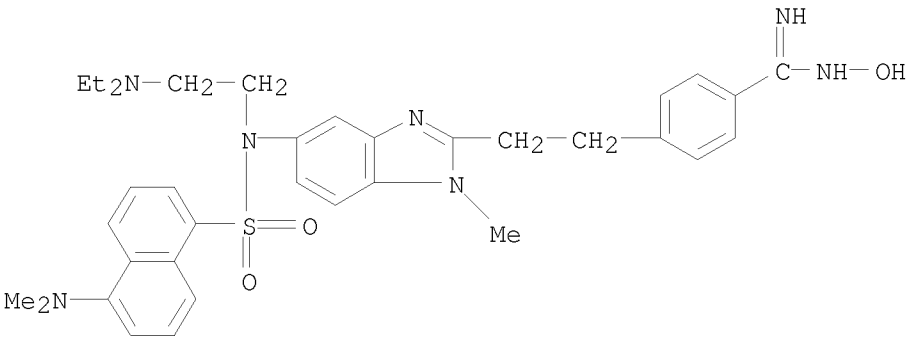
RN 331449-58-2 HCAPLUS
CN Glycine, N-[4-[[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]benzoyl]- (CA INDEX NAME)

PAGE 1-A

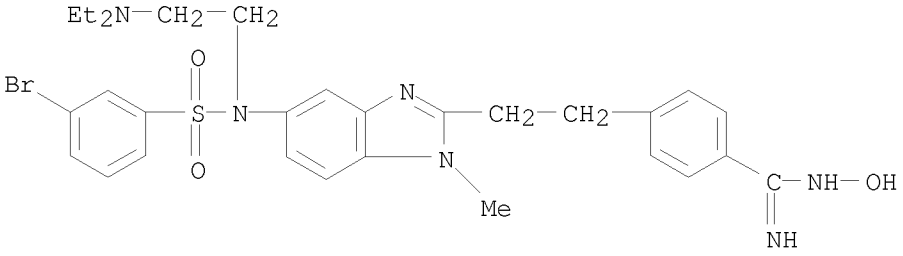


PAGE 1-B

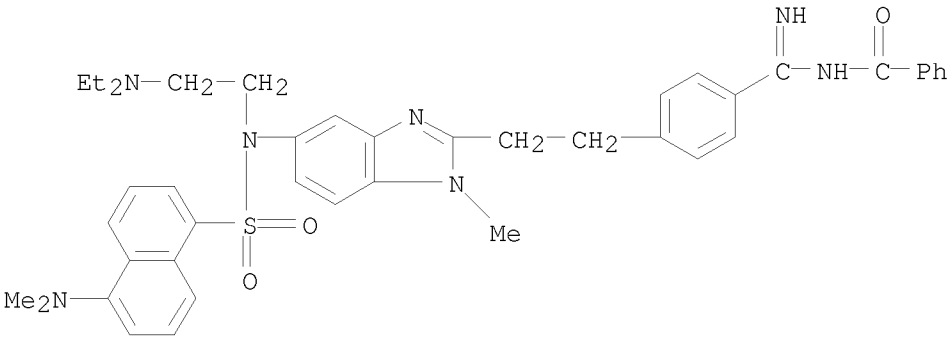
RN 331449-59-3 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



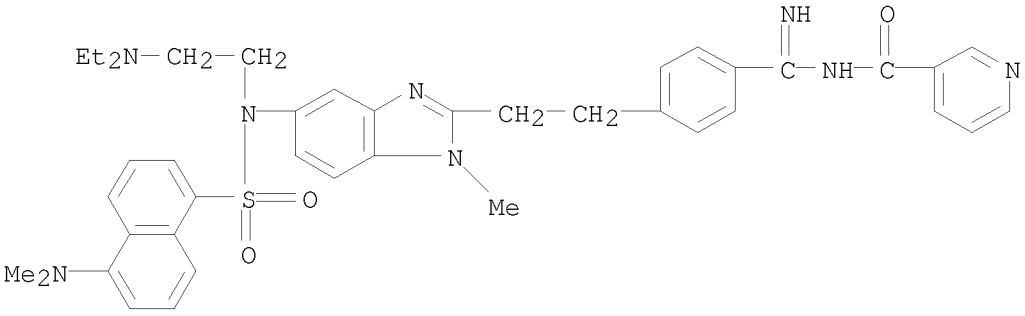
RN 331449-60-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[(3-bromophenyl)sulfonyl][2-(diethylamino)ethyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



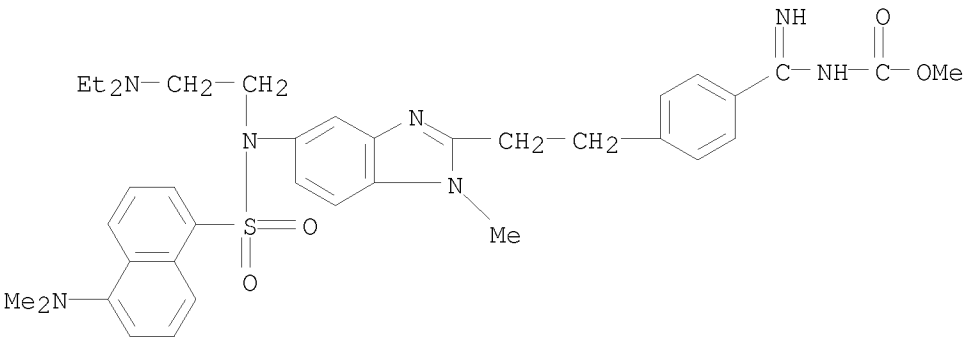
RN 331449-61-7 HCAPLUS
CN Benzamide, N-[[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]- (CA INDEX NAME)



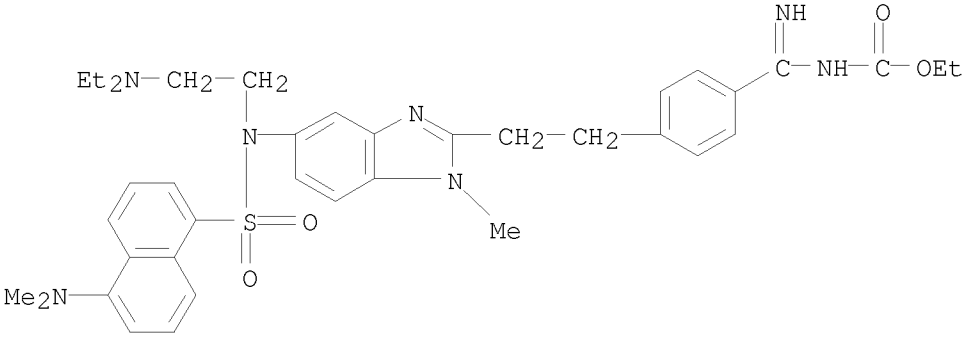
RN 331449-62-8 HCAPLUS
CN 3-Pyridinecarboxamide, N-[[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]- (CA INDEX NAME)



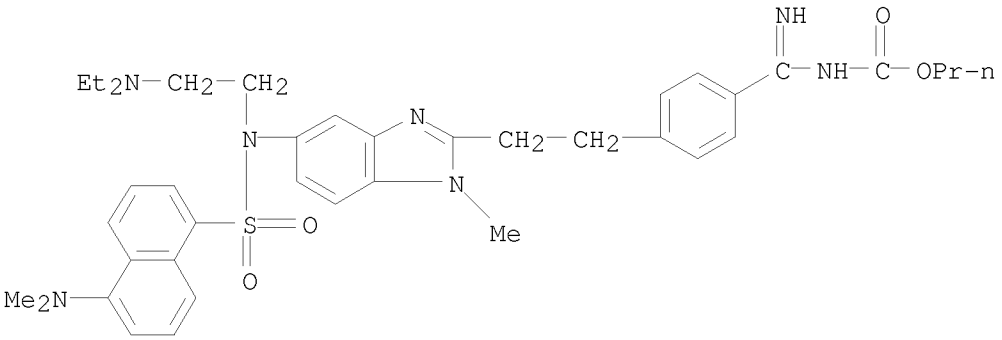
RN 331449-63-9 HCAPLUS
CN Carbamic acid, [[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 331449-64-0 HCAPLUS
CN Carbamic acid, [[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]-, ethyl ester (9CI) (CA INDEX NAME)

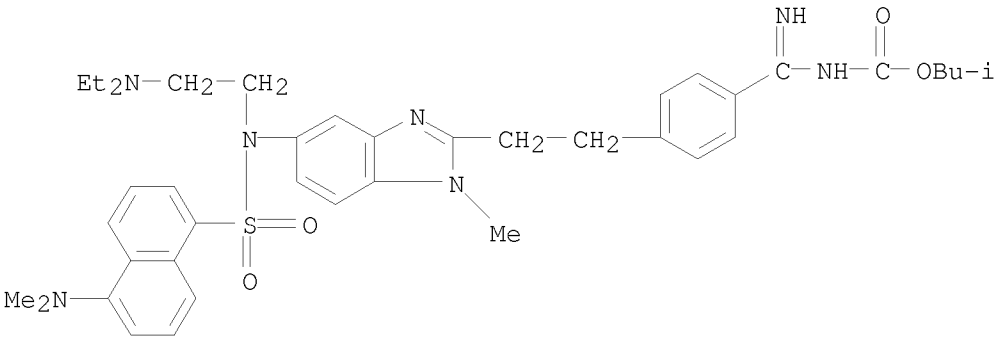


RN 331449-65-1 HCAPLUS
CN Carbamic acid, [[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]-, propyl ester (9CI) (CA INDEX NAME)



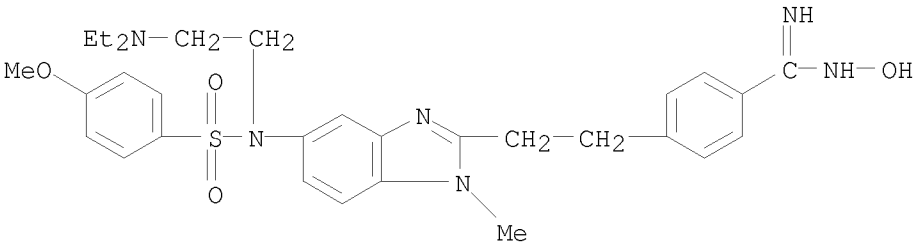
RN 331449-66-2 HCAPLUS
CN Carbamic acid, [[4-[2-[5-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-

naphthalenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]-, 2-methylpropyl ester (9CI) (CA INDEX NAME)

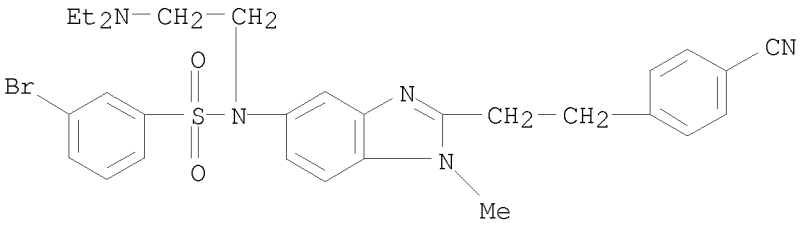


IT 331449-72-0 331449-73-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of N-[(amindinophenethyl)benzimidazolyl]benzenesulfonamides and analogs as tryptase inhibitors)

RN 331449-72-0 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl][(4-methoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



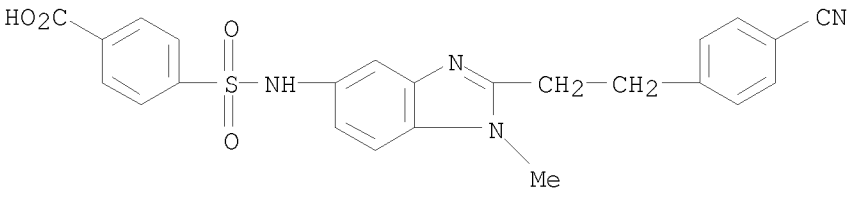
RN 331449-73-1 HCAPLUS
CN Benzenesulfonamide, 3-bromo-N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(diethylamino)ethyl]- (CA INDEX NAME)



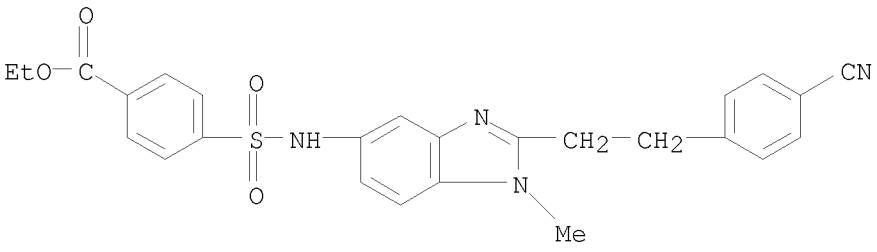
IT 331449-67-3P 331449-68-4P 331449-69-5P
331449-70-8P 331449-71-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation of N-[(amindinophenethyl)benzimidazolyl]benzenesulfonamides and analogs as tryptase inhibitors)

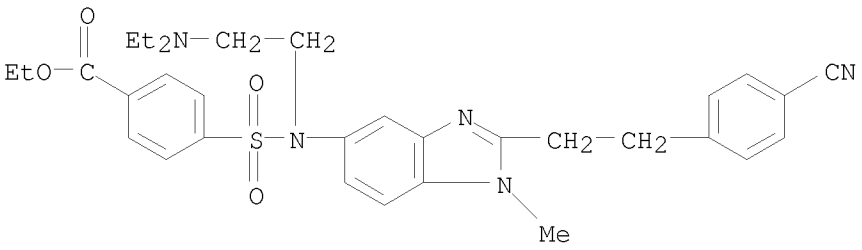
RN 331449-67-3 HCAPLUS
CN Benzoic acid, 4-[[[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]- (CA INDEX NAME)



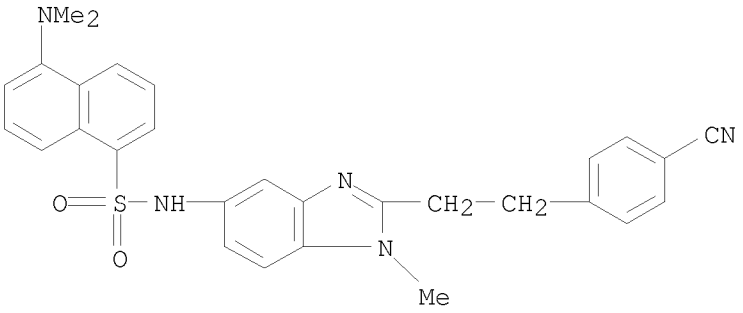
RN 331449-68-4 HCAPLUS
CN Benzoic acid, 4-[[[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]-, ethyl ester (CA INDEX NAME)



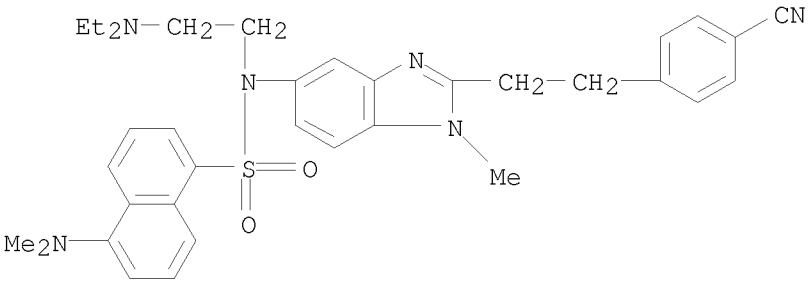
RN 331449-69-5 HCAPLUS
CN Benzoic acid, 4-[[[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl][2-(diethylamino)ethyl]amino]sulfonyl]-, ethyl ester (CA INDEX NAME)



RN 331449-70-8 HCAPLUS
CN 1-Naphthalenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-5-(dimethylamino)- (CA INDEX NAME)



RN 331449-71-9 HCAPLUS
CN 1-Naphthalenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(diethylamino)ethyl]-5-(dimethylamino)- (CA INDEX NAME)



L9 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:224232 HCAPLUS
DOCUMENT NUMBER: 134:266307
TITLE: Preparation of 2-arylethyl-5-arylsulfonamidobenzimidazoles as tryptase inhibitors.
INVENTOR(S): Anderskewitz, Ralf; Braun, Christine; Briem, Hans; Disse, Bernd; Hoenke, Christoph; Jennewein, Hans Michael; Speck, Georg
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19945787	A1	20010329	DE 1999-19945787	19990924 <--
CA 2379557	A1	20010405	CA 2000-2379557	20000921 <--
CA 2379557	C	20080916		
WO 2001023360	A1	20010405	WO 2000-EP9237	20000921 <--

W: AE, AU, BG, BR, CA, CN, CZ, EE, HR, HU, ID, IL, IN, JP, KR, LT,

LV, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, US, UZ, VN, YU, ZA,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

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EP 1220844	A1	20020710	EP 2000-960686	20000921	<--
EP 1220844	B1	20030409			

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, CY

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PRIORITY APPLN. INFO.:	DE 1999-19945787	A	19990924
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OTHER SOURCE(S): MARPAT 134:266307
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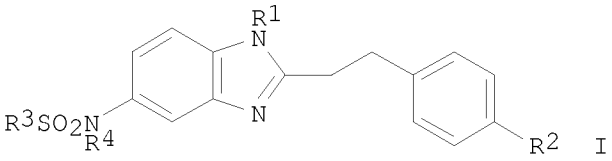
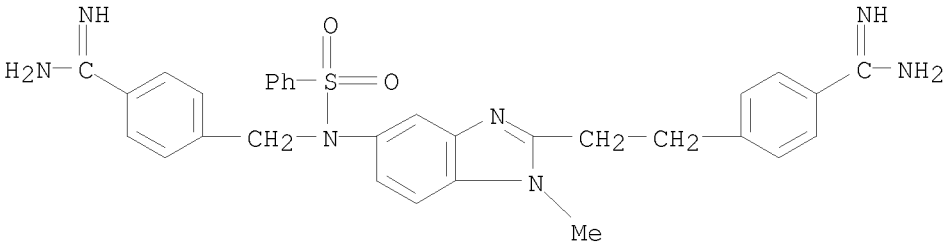


I

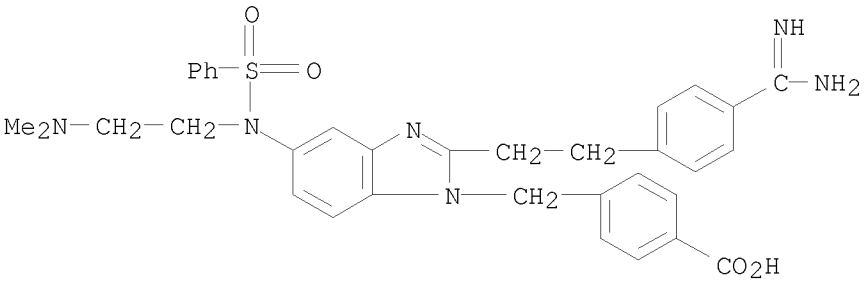
AB Title compds. [I; R1 = (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, phenylalkyl, heterocyclyl, heterocyclylalkyl; R2 = C(:NH)NH2, CH2NH2; R3 = Ph, PhCH2, naphthyl, furyl, benzofuryl, thienyl, benzothienyl; R4 = H, (substituted) alkyl, heterocyclyl, heterocyclylalkyl, etc.], were prepared Thus, N-[3-amino-4-(3,5-bistifluoromethylbenzylamino)phenyl]benzenesulfonamide (preparation given), p-cyanophenylpropionic acid, and POCl3 were heated together for 2 h at 100-120° to give 71.5% N-[2-[2-(4-cyanophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. This was stirred with HCl in EtOH at 0-5° and the residue after distillation of EtOH was treated with NH3 in EtOH to give 70.3% N-[2-[2-(4-amidinophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. I inhibited tryptase with IC50 = 0.0066-0.412 μM.

IT 1099086-44-8 1099086-51-7
RL: PRPH (Prophetic)
(Preparation of 2-arylethyl-5-arylsulfonamidobenzimidazoles as tryptase inhibitors.)

RN 1099086-44-8 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED



RN 1099086-51-7 HCAPLUS
CN Benzoic acid, 4-[[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]methyl]- (CA INDEX NAME)



IT 331766-13-3P 331766-14-4P 331766-15-5P
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331766-19-9P 331766-20-2P 331766-21-3P
331766-22-4P 331766-23-5P 331766-24-6P
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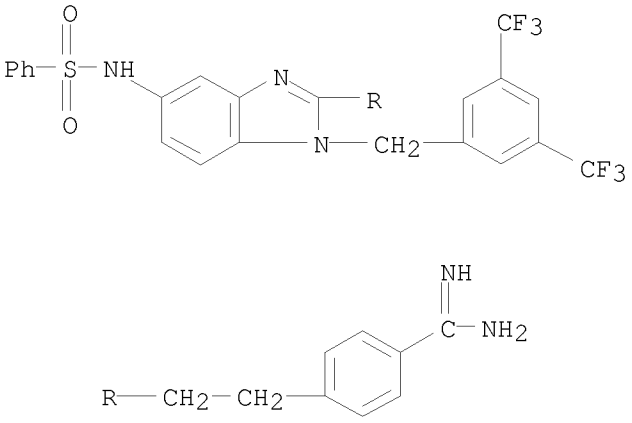
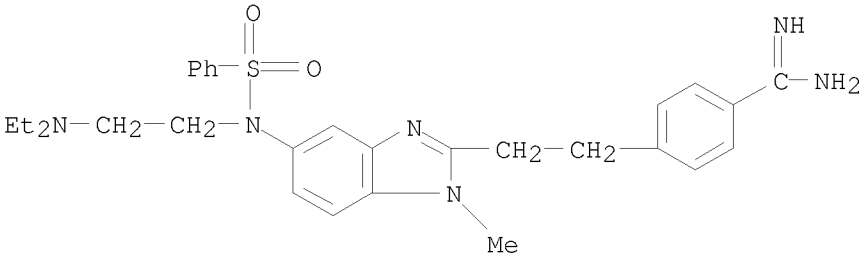
331766-34-8P 331766-35-9P 331766-36-0P
331766-37-1P 331766-38-2P 331766-39-3P
331766-40-6P 331766-41-7P 331766-42-8P
331766-43-9P 331766-44-0P 331766-45-1P
331766-46-2P 331766-47-3P 331766-48-4P
331766-49-5P 331766-50-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of arylethylarylsulfonamidobenzimidazoles as tryptase inhibitors)
RN 331766-13-3 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-[[3,5-bis(trifluoromethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:1) (CA INDEX NAME)



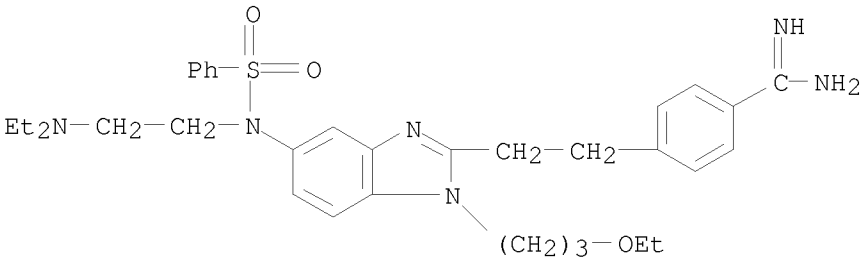
● HCl

RN 331766-14-4 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:2) (CA INDEX NAME)



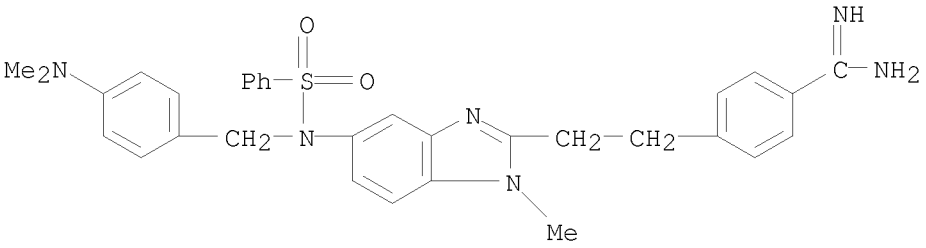
●2 HCl

RN 331766-15-5 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(3-ethoxypropyl)-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:2) (CA INDEX NAME)



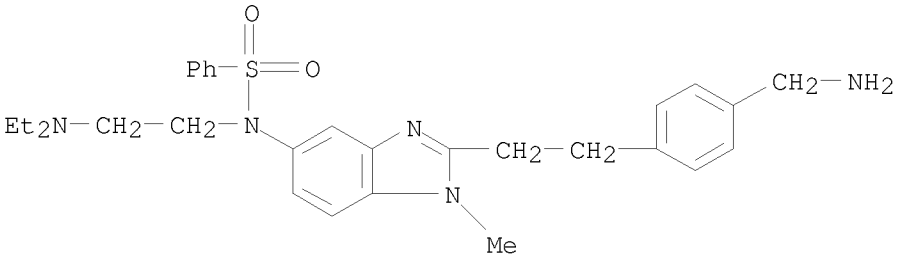
●2 HCl

RN 331766-16-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[[4-(dimethylamino)phenyl]methyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]-, hydrochloride (1:2) (CA INDEX NAME)



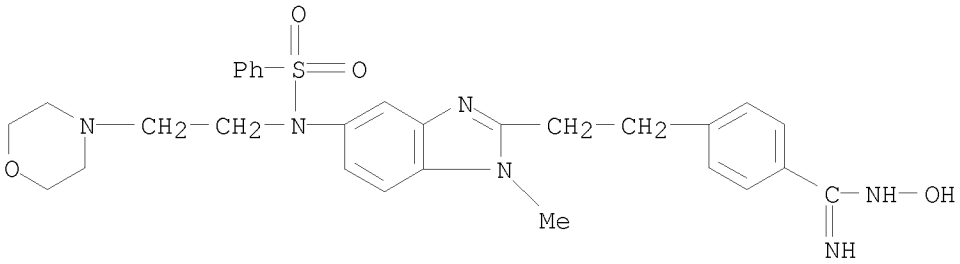
●2 HCl

RN 331766-17-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-[4-(aminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(diethylamino)ethyl]-, hydrochloride (1:2) (CA INDEX NAME)

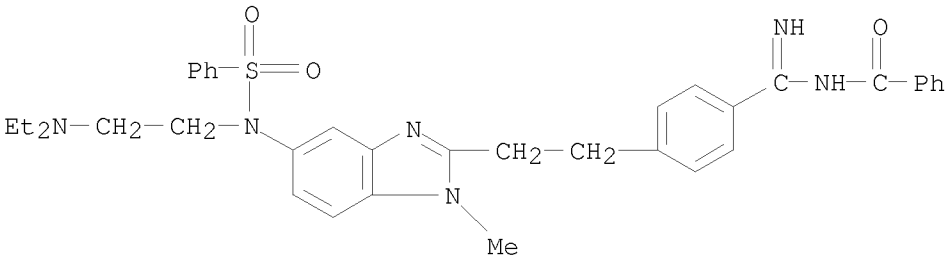


●2 HCl

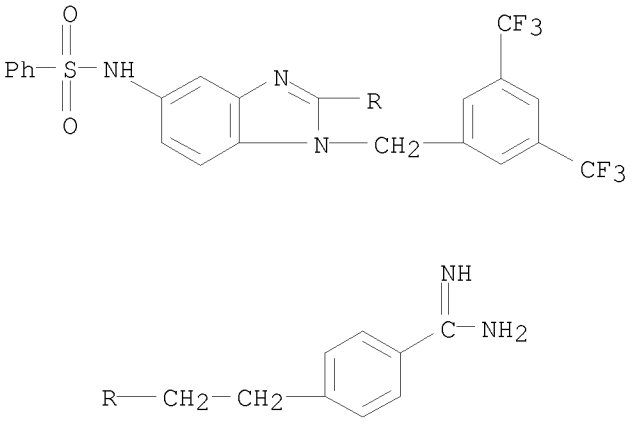
RN 331766-18-8 HCAPLUS
CN Benzenecarboximidamide, N-hydroxy-4-[2-[1-methyl-5-[[2-(4-morpholinyl)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



RN 331766-19-9 HCAPLUS
CN Benzamide, N-[[4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]phenyl]iminomethyl]- (CA INDEX NAME)

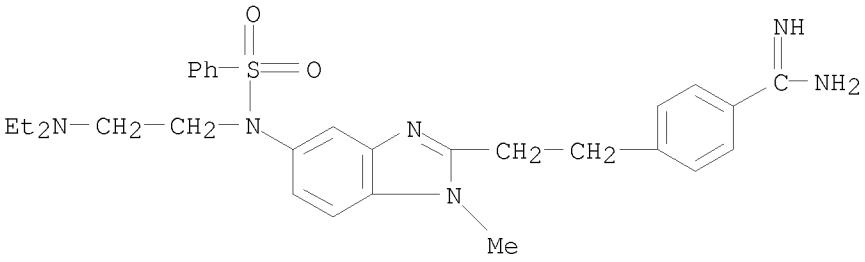


RN 331766-20-2 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-[[3,5-bis(trifluoromethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)

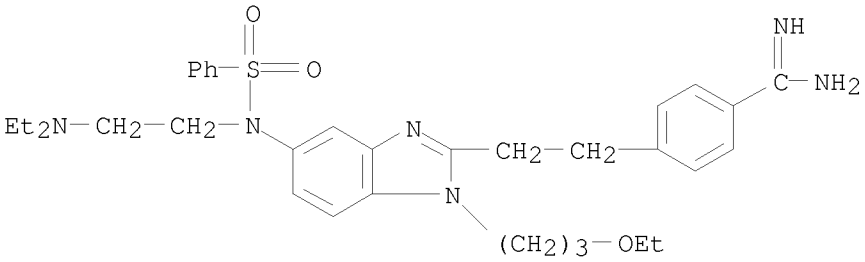


RN 331766-21-3 HCAPLUS

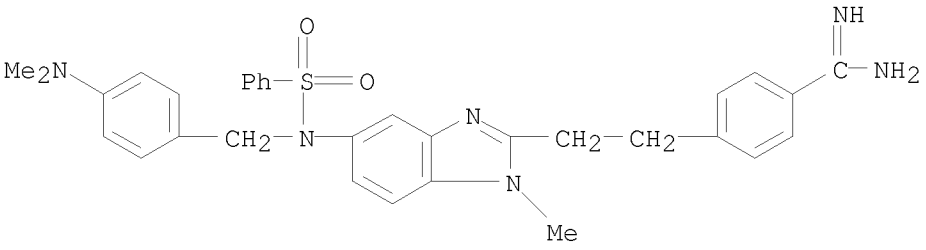
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



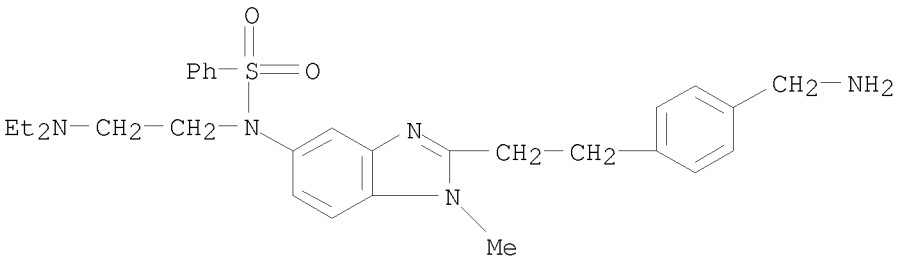
RN 331766-22-4 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(3-ethoxypropyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



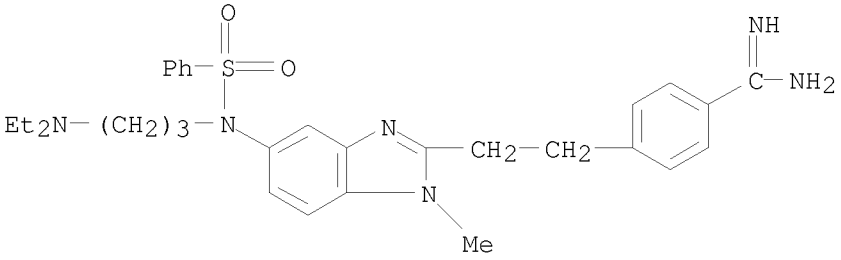
RN 331766-23-5 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[[4-(dimethylamino)phenyl]methyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



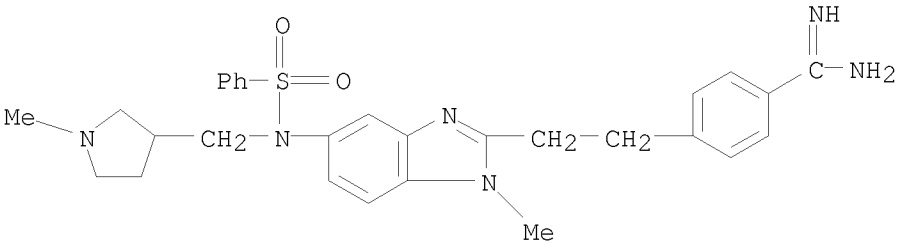
RN 331766-24-6 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-[4-(aminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(diethylamino)ethyl]- (CA INDEX NAME)



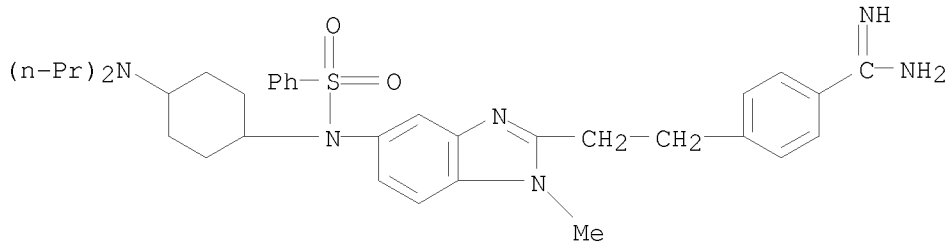
RN 331766-25-7 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[3-(diethylamino)propyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



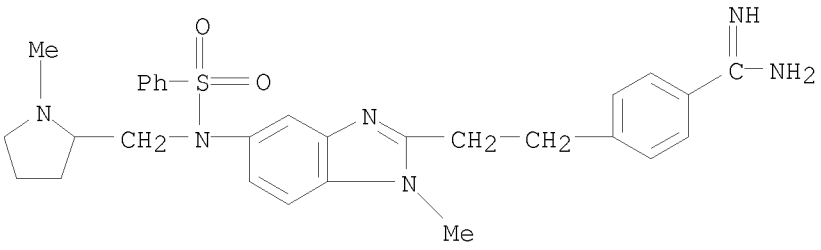
RN 331766-26-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[[(1-methyl-3-pyrrolidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



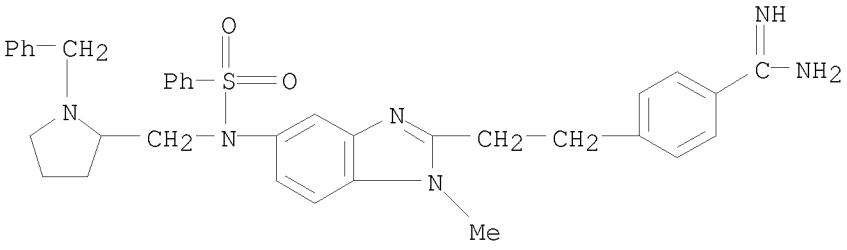
RN 331766-27-9 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[4-(dipropylamino)cyclohexyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



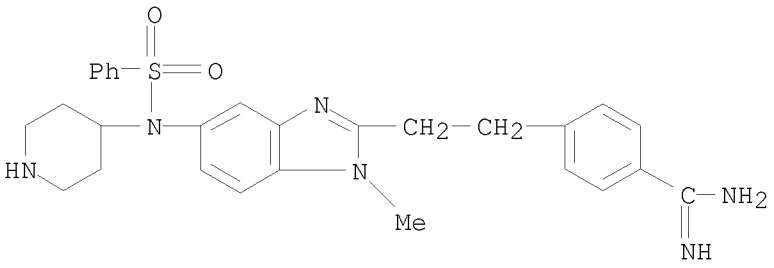
RN 331766-28-0 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[[(1-methyl-2-pyrrolidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



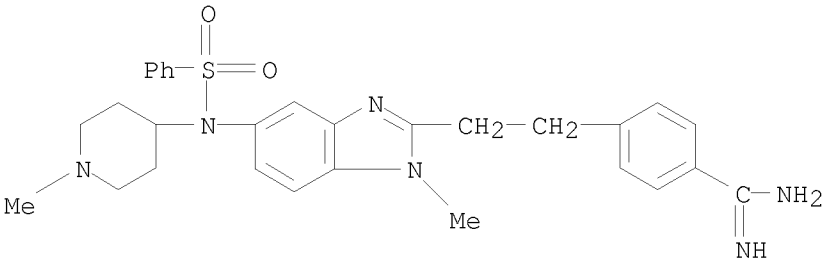
RN 331766-29-1 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[[[1-(phenylmethyl)-2-pyrrolidinyl]methyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



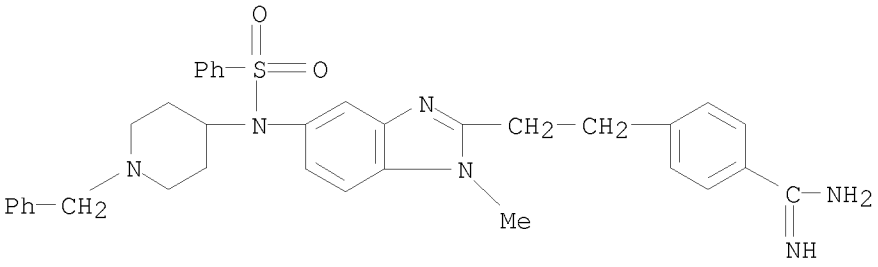
RN 331766-30-4 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[(phenylsulfonyl)-4-piperidinylamino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



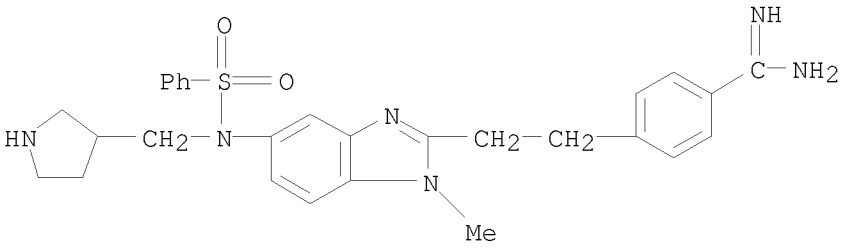
RN 331766-31-5 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[(1-methyl-4-piperidinyl)(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



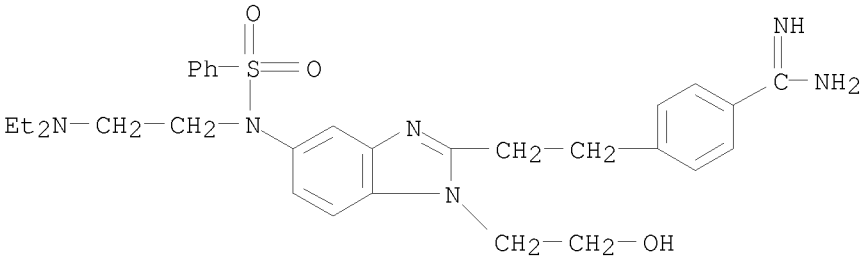
RN 331766-32-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[[1-(phenylmethyl)-4-piperidinyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



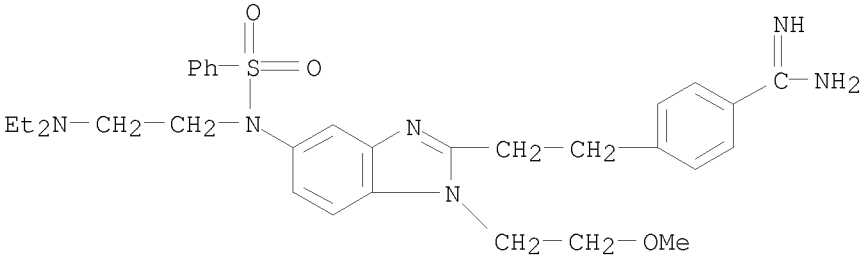
RN 331766-33-7 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[(phenylsulfonyl)(3-pyrrolidinylmethyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



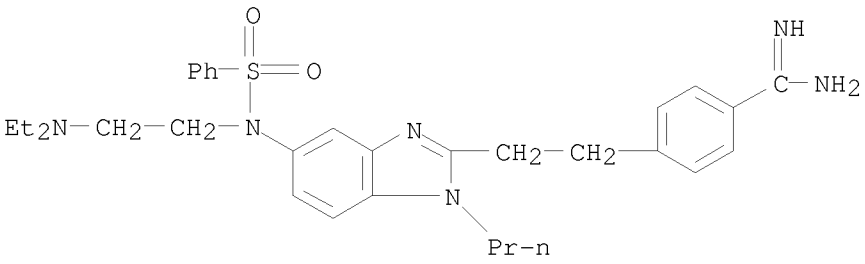
RN 331766-34-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(2-hydroxyethyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



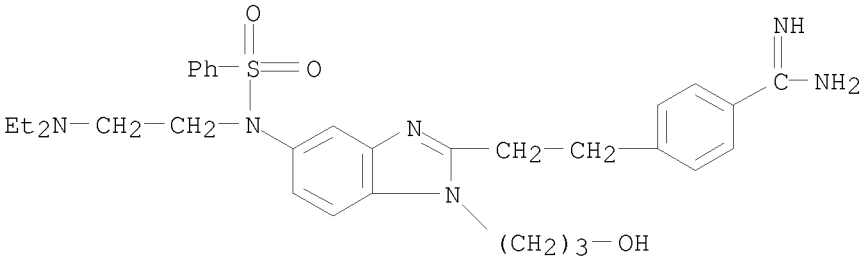
RN 331766-35-9 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(2-methoxyethyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



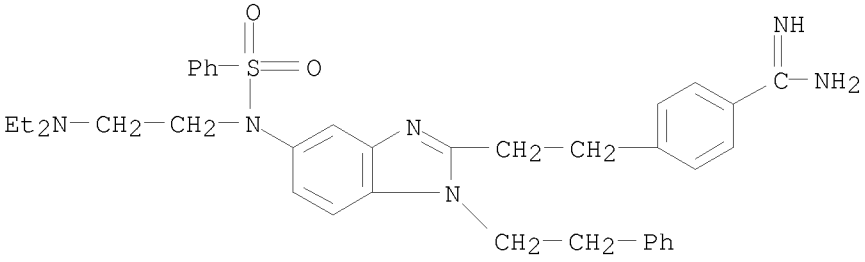
RN 331766-36-0 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



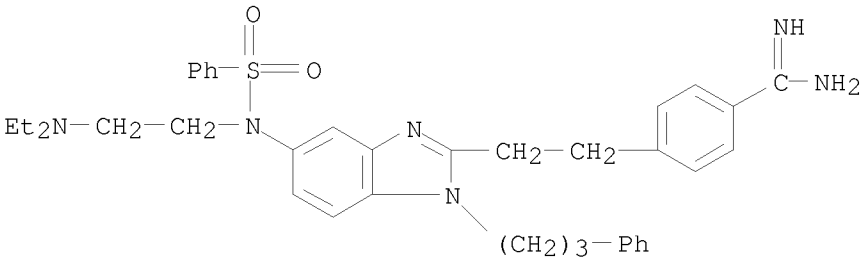
RN 331766-37-1 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(3-hydroxypropyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



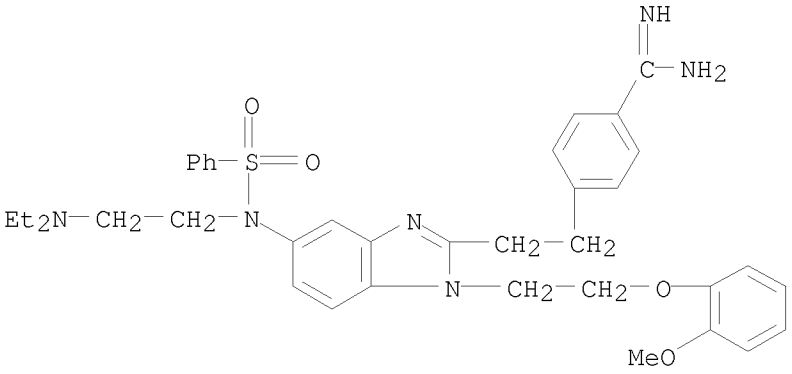
RN 331766-38-2 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(2-phenylethyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



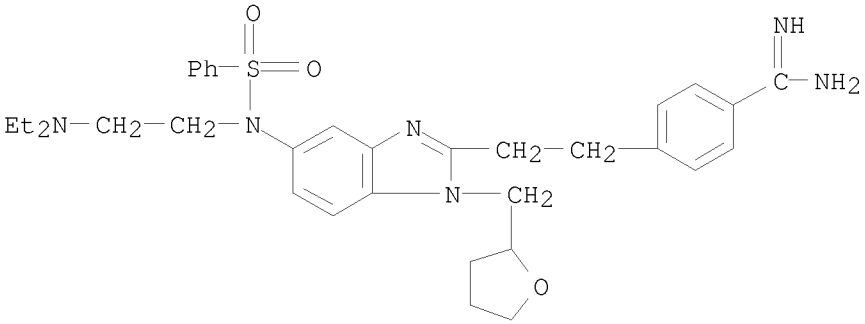
RN 331766-39-3 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(3-phenylpropyl)-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



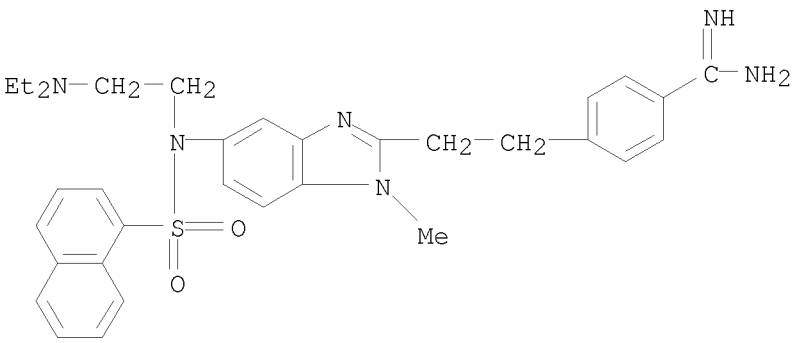
RN 331766-40-6 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[2-(2-methoxyphenoxy)ethyl]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



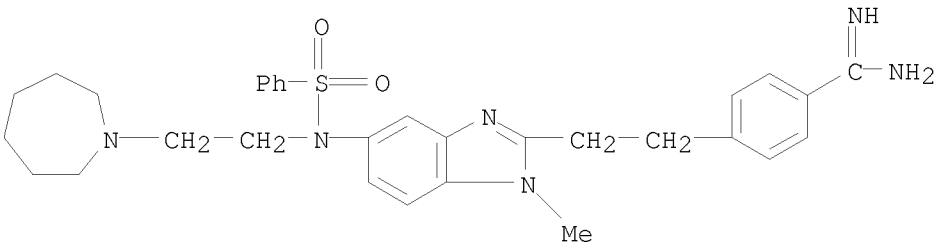
RN 331766-41-7 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



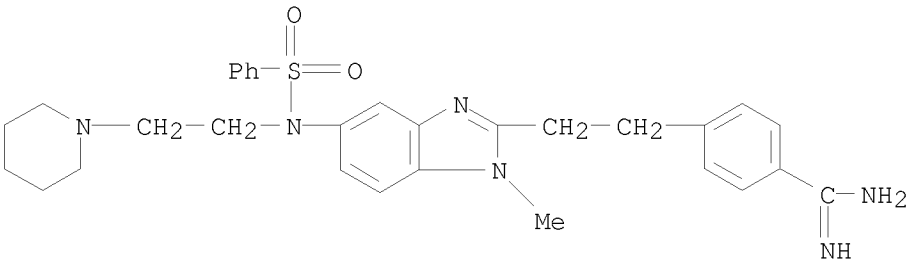
RN 331766-42-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](1-naphthalenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



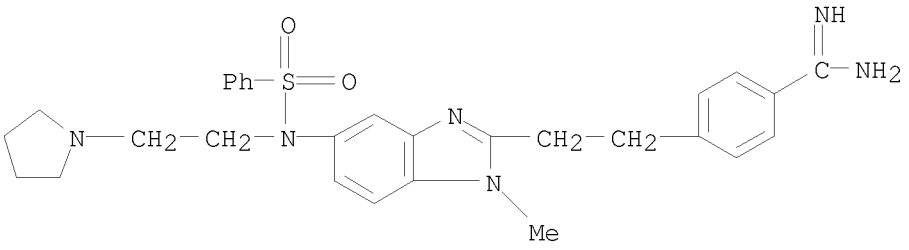
RN 331766-43-9 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(hexahydro-1H-azepin-1-yl)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



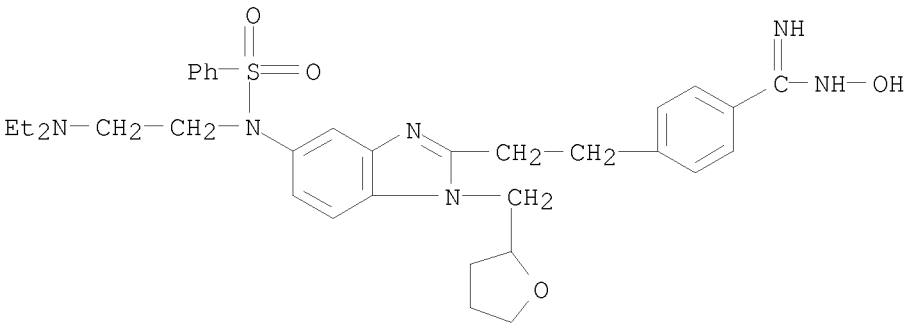
RN 331766-44-0 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[(phenylsulfonyl)[2-(1-piperidinyl)ethyl]amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



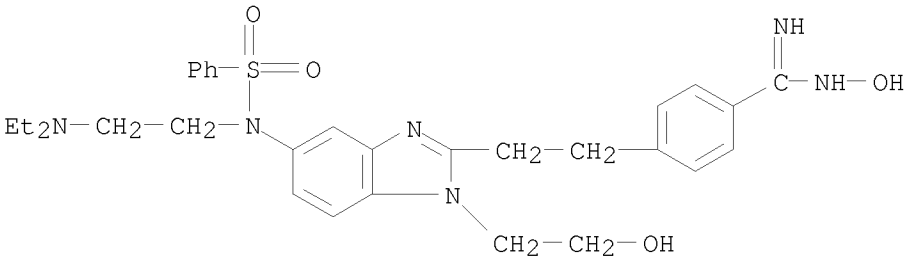
RN 331766-45-1 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[1-methyl-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



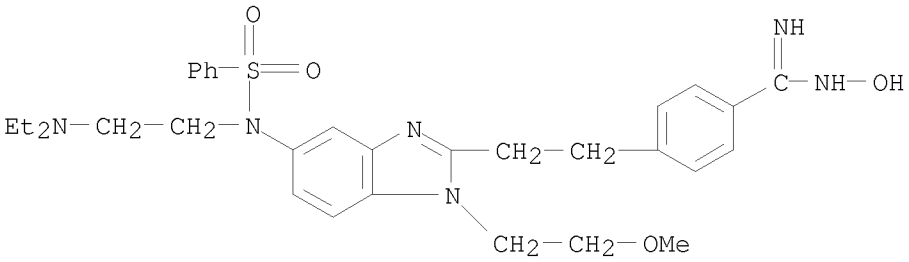
RN 331766-46-2 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



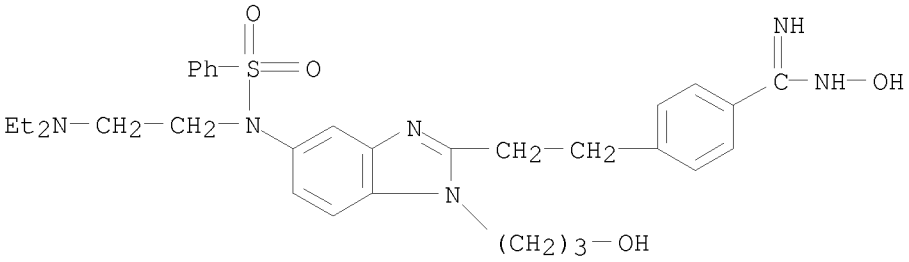
RN 331766-47-3 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(2-hydroxyethyl)-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



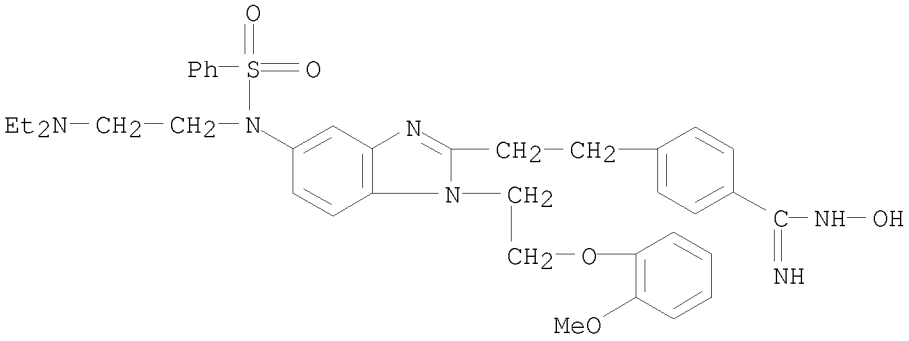
RN 331766-48-4 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(2-methoxyethyl)-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



RN 331766-49-5 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-(3-hydroxypropyl)-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)

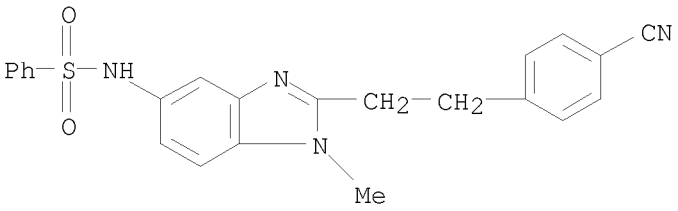


RN 331766-50-8 HCAPLUS
CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[2-(2-methoxyphenoxy)ethyl]-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)

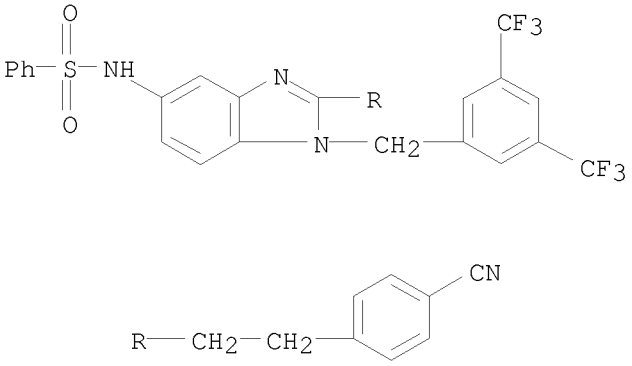


IT 256493-19-3P 331766-54-2P 331766-55-3P
331766-59-7P 331766-60-0P 331766-62-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of arylethylarylsulfonamidobenzimidazoles as tryptase inhibitors)
RN 256493-19-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-

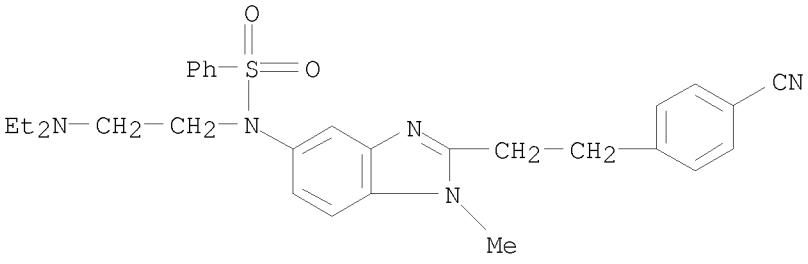
5-yl]- (CA INDEX NAME)



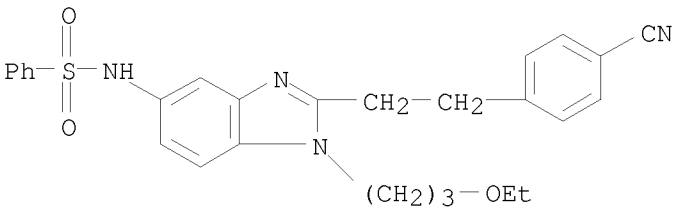
RN 331766-54-2 HCAPLUS
CN Benzenesulfonamide, N-[1-[[3,5-bis(trifluoromethyl)phenyl]methyl]-2-[2-(4-cyanophenyl)ethyl]-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 331766-55-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(diethylamino)ethyl]- (CA INDEX NAME)



RN 331766-59-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-(3-ethoxypropyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



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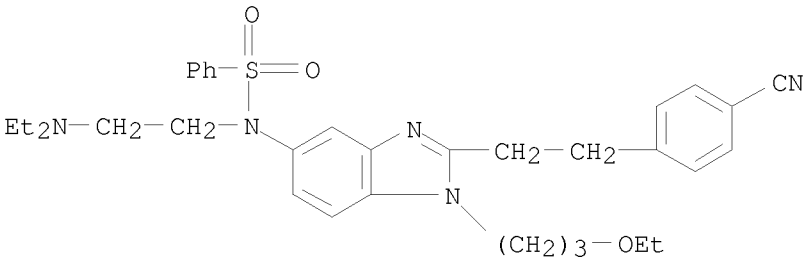
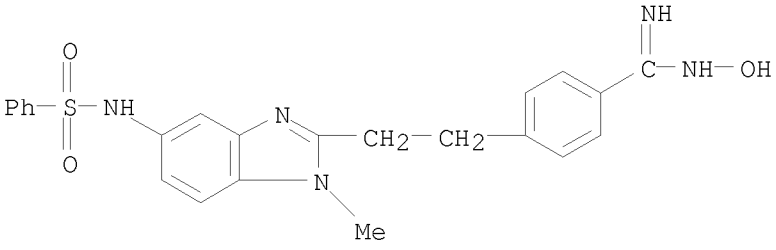


RN 331766-62-2 HCAPLUS
CN Benzenecarboximidamide, N-hydroxy-4-[2-[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



L9 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2000:83221 HCAPLUS
DOCUMENT NUMBER: 132:137386
TITLE: Preparation of heterocyclylalkylbenzamidines and analogs as thrombin inhibitors
INVENTOR(S): Hauel, Norbert; Ries, Uwe; Priepke, Henning; Mihm, Gerhard; Wienen, Wolfgang; Stassen, Jean Marie; Binder, Klaus; Zimmermann, Rainer
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 58 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19834751	A1	20000203	DE 1998-19834751	19980801 <--
US 6121308	A	20000919	US 1999-359487	19990722 <--
CA 2337825	A1	20000217	CA 1999-2337825	19990727 <--
CA 2337825	C	20080923		
WO 2000008014	A1	20000217	WO 1999-EP5371	19990727 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW				
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AU 9952885	A	20000228	AU 1999-52885	19990727 <--
EP 1100795	A1	20010523	EP 1999-938353	19990727 <--
EP 1100795	B1	20040609		
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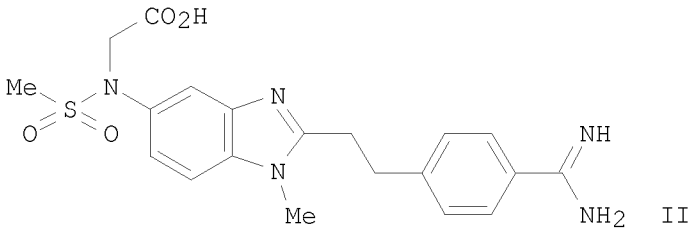
AT 268763	T	20040615	AT 1999-938353	19990727
ES 2223177	T3	20050216	ES 1999-938353	19990727
MX 2001000399	A	20010622	MX 2001-399	20010111 <--

PRIORITY APPLN. INFO.:	DE 1998-19834751	A	19980801
	US 1998-98838P	P	19980902
	WO 1999-EP5371	W	19990727

OTHER SOURCE(S): MARPAT 132:137386

GI



II

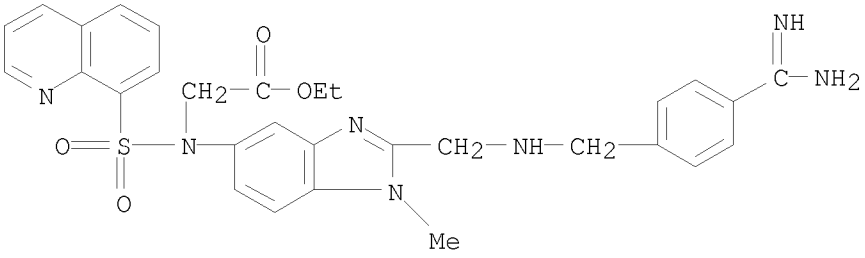
AB RaZ2Z1ZR [I; R = cyano or C(:NH)NHRb; Ra = (alkyl)amino, phenylalkoxy, NR4COR3, etc.; Rb = H, OH, alkyl, metabolically labile group; Z = (un)substituted (hetero)arylene; Z1 = (alkyl-substituted) CH2CH2, -OCH2, -CH2O, -NHCH2, etc.; Z2 = indole-, benzimidazole-, benzoxazole-n,2-diyl, quinolinediyl, etc.; n = 4-7] were prepared Thus, 2-methylamino-5-nitroaniline was cyclocondensed with HO2CCH2CH2C6H4(CN)-4 and the reduced product N-substituted by, successively, MeSO2Cl and BrCH2CO2Et to give, after aminolysis and saponification, title compound II. Data for biol. activity of I were given.

IT 256491-63-1P 256491-69-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of heterocyclylalkylbenzamidines and analogs as thrombin inhibitors)

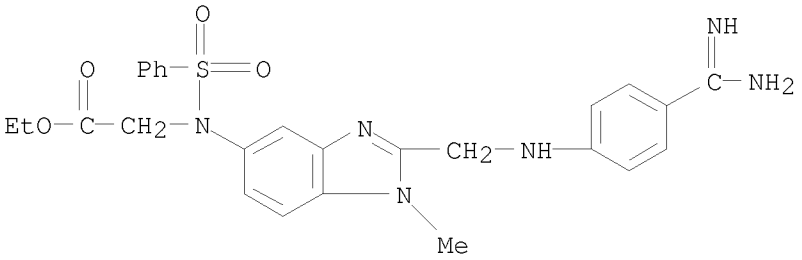
RN 256491-63-1 HCAPLUS

CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]methyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 256491-69-7 HCAPLUS

CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



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256491-45-9P 256491-46-0P 256491-48-2P
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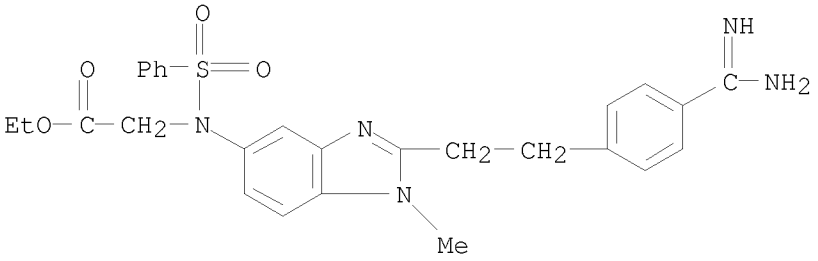
256492-41-8P 256492-42-9P 256492-43-0P
256492-44-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclylalkylbenzamidines and analogs as thrombin inhibitors)

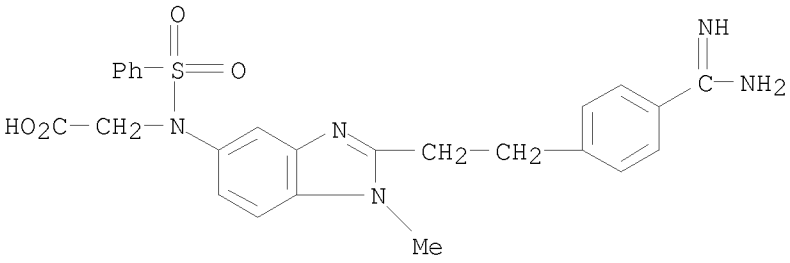
RN 256491-15-3 HCAPLUS

CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



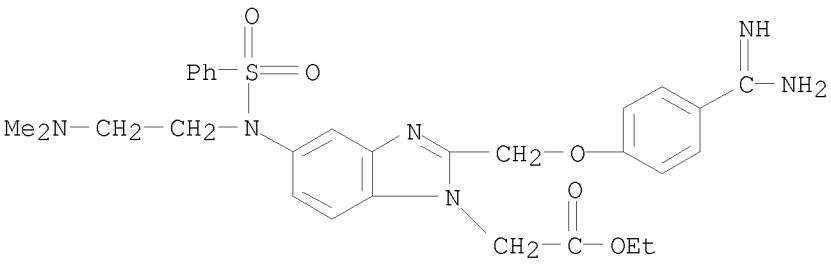
RN 256491-16-4 HCAPLUS

CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)- (CA INDEX NAME)



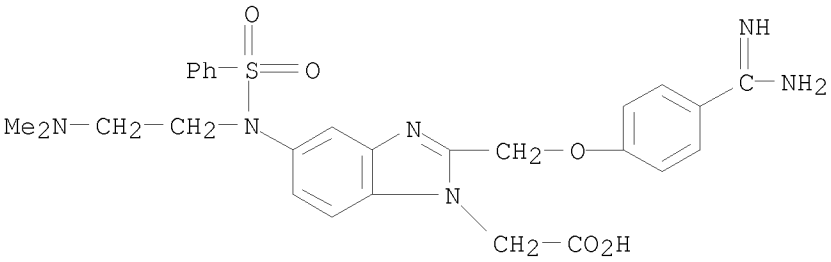
RN 256491-18-6 HCAPLUS

CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)

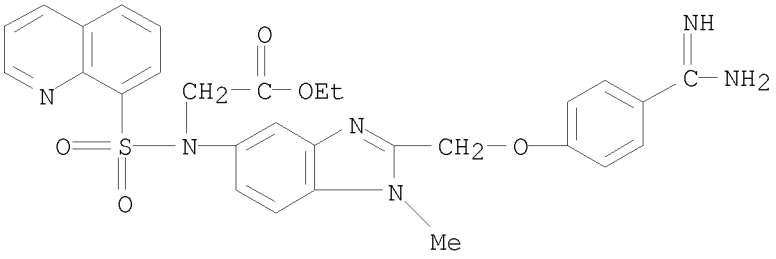


RN 256491-20-0 HCAPLUS

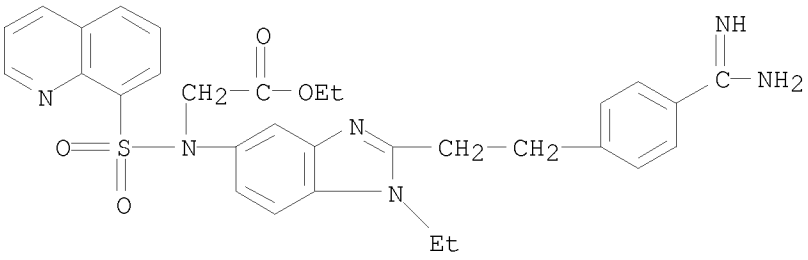
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]- (CA INDEX NAME)



RN 256491-25-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 256491-26-6 HCAPLUS
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 256491-27-7 HCAPLUS
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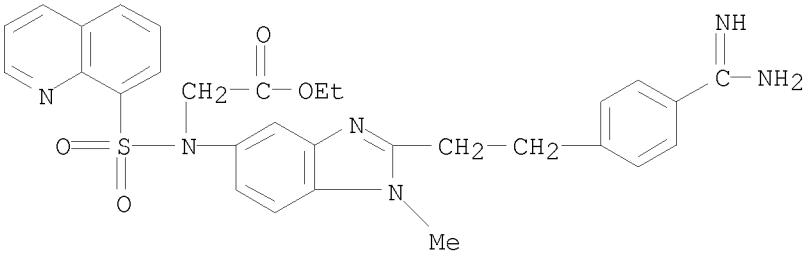
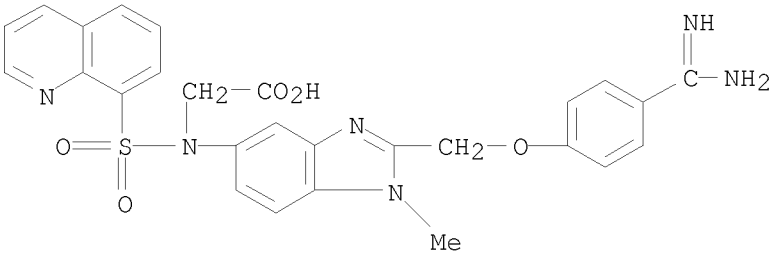
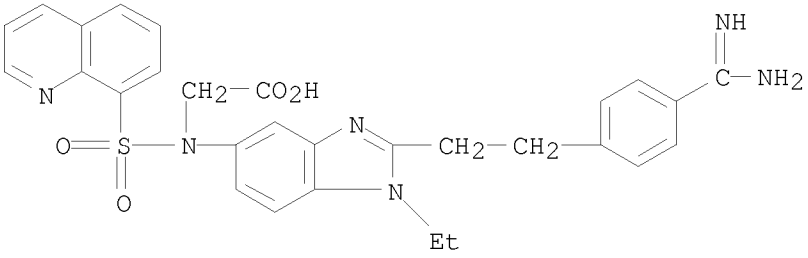


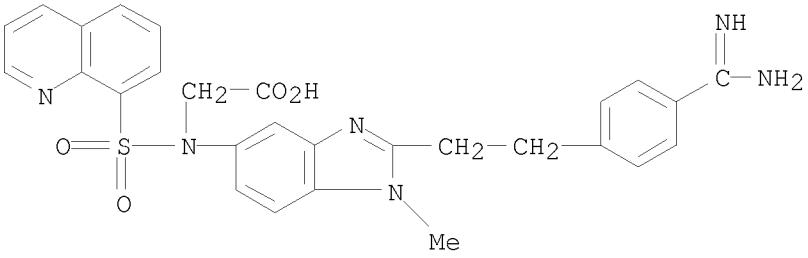
RN 256491-29-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



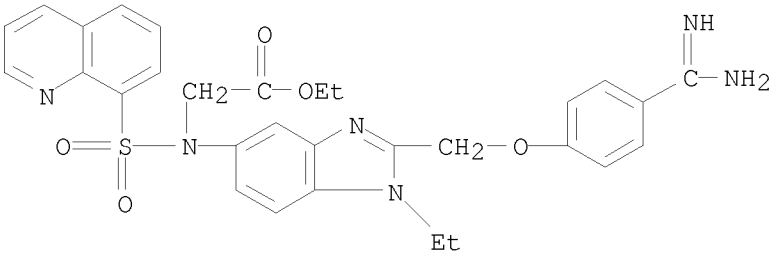
RN 256491-31-3 HCAPLUS
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



RN 256491-32-4 HCAPLUS
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



RN 256491-34-6 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



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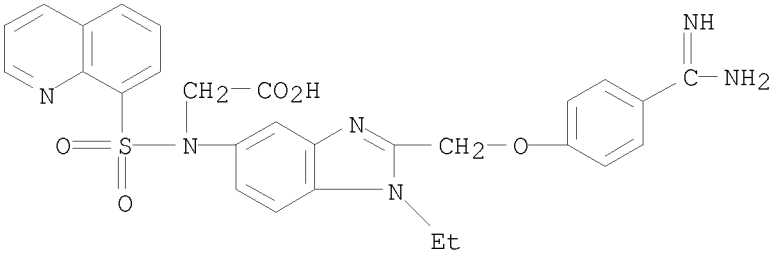
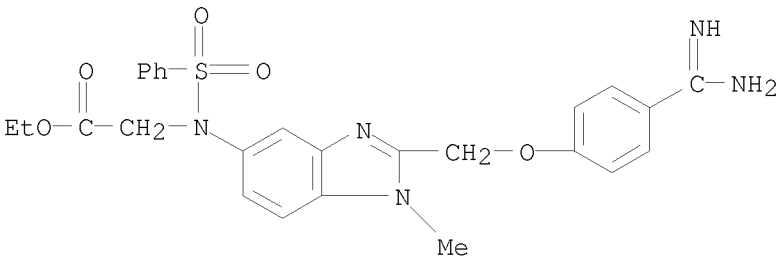
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



RN 256491-36-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



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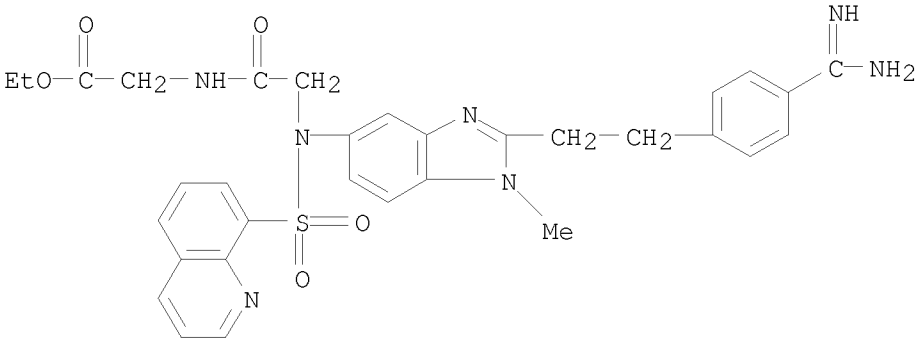
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



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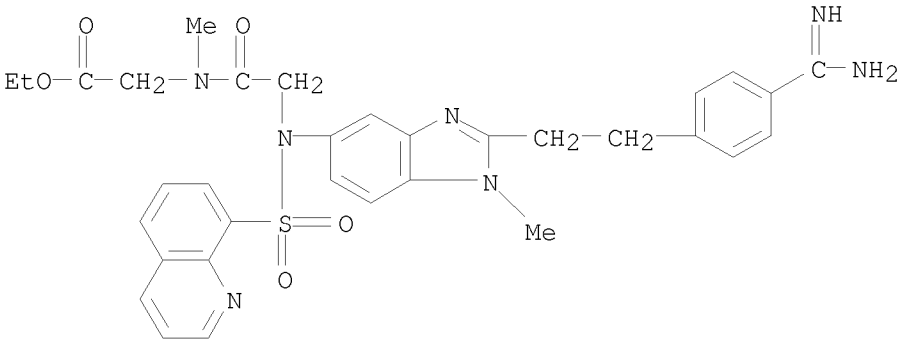
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, ethyl ester (CA INDEX NAME)



RN 256491-39-1 HCAPLUS
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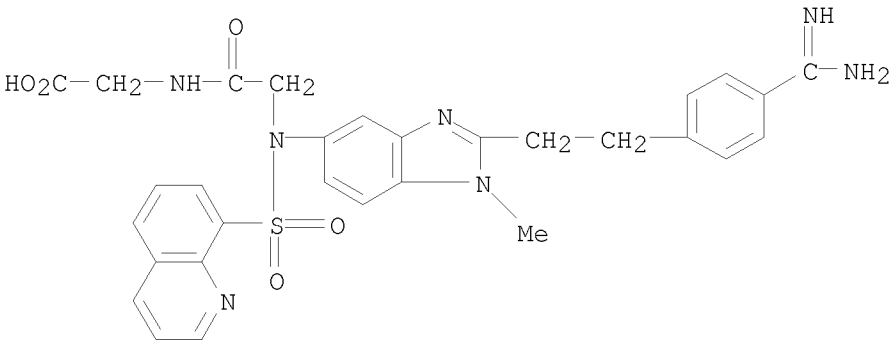

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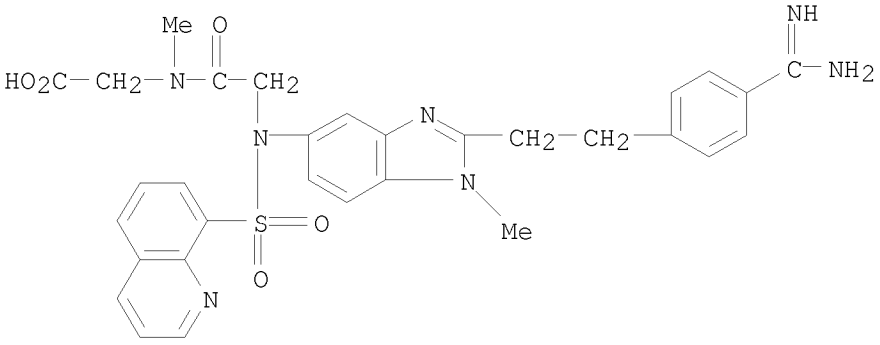
CN Glycine, N-[2-[2-[4-(aminoiminomethyl)phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl- (CA INDEX NAME)



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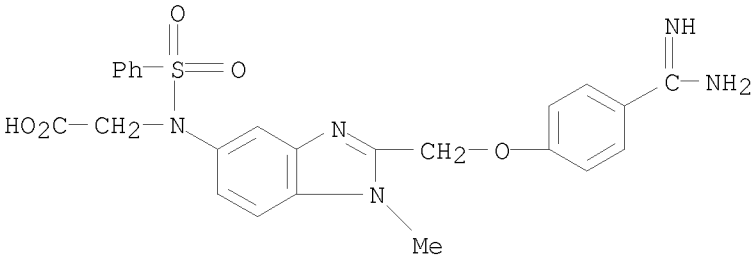
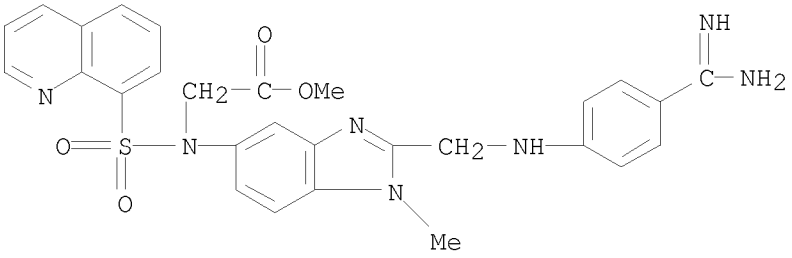
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)- (CA INDEX NAME)



RN 256491-42-6 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



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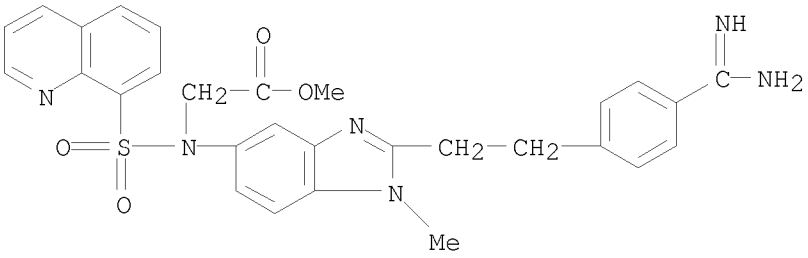

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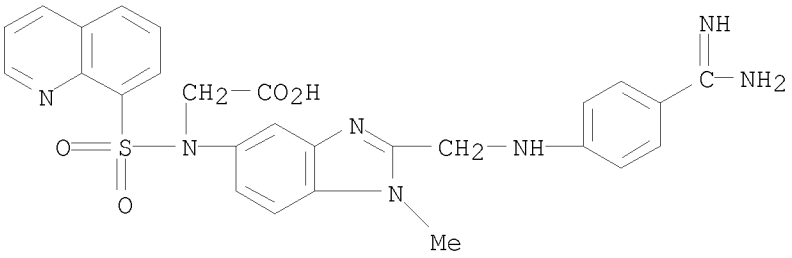
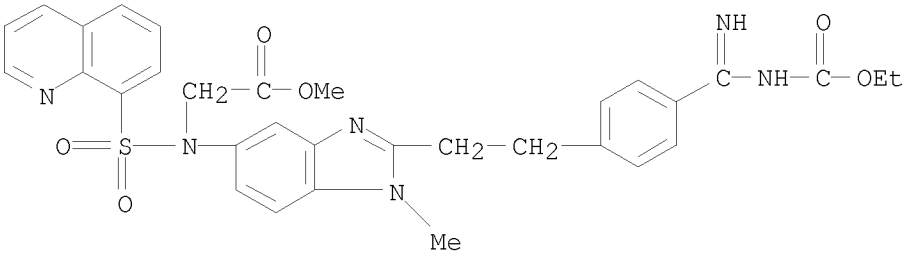


RN 256491-45-9 HCAPLUS
CN Glycine, N-[2-[2-[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



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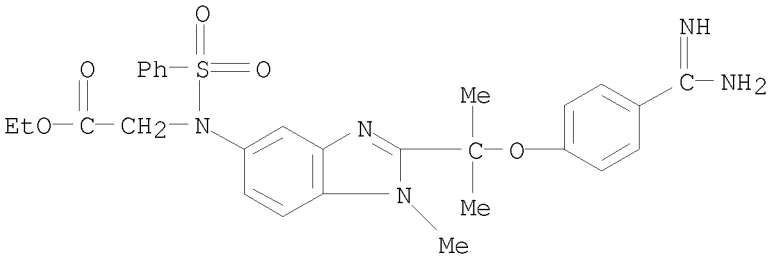
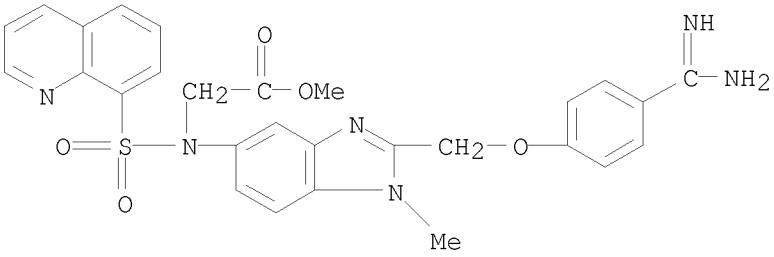


RN 256491-48-2 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



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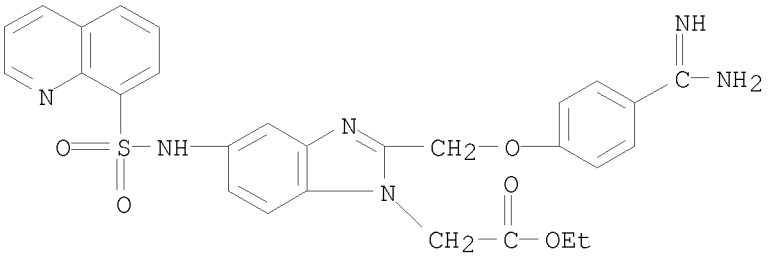
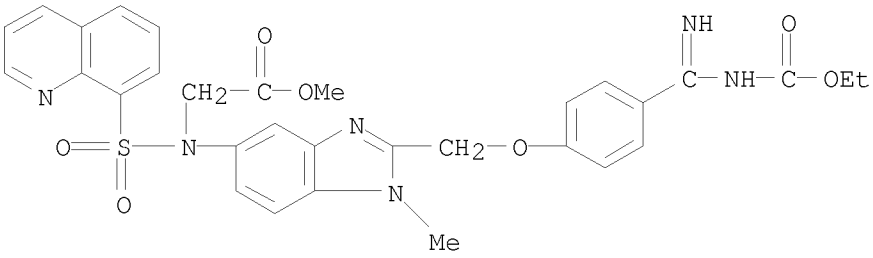
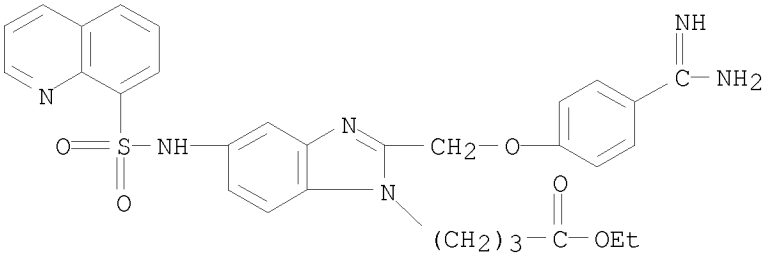
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[(8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



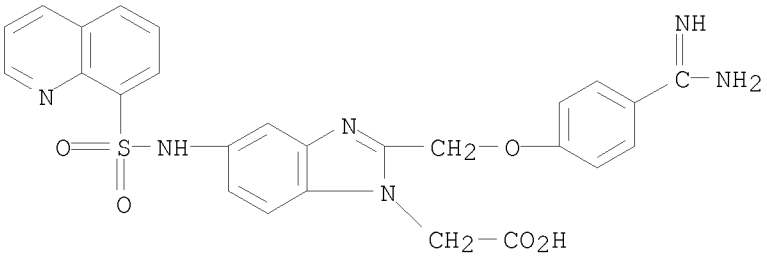
RN 256491-50-6 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



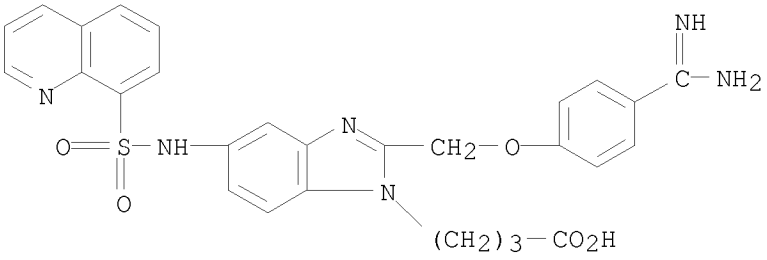
RN 256491-51-7 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[(8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



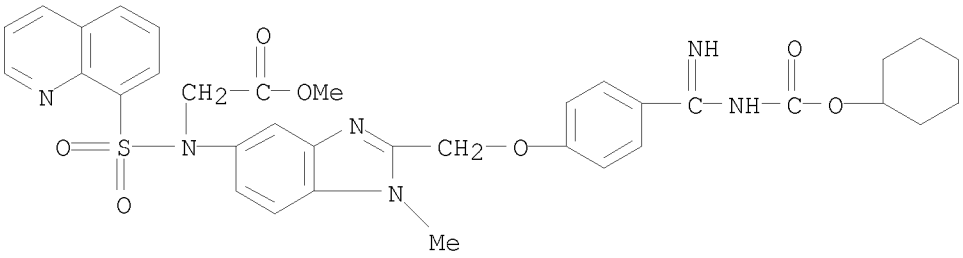
RN 256491-52-8 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[(8-quinolinylsulfonyl)amino]- (CA INDEX NAME)



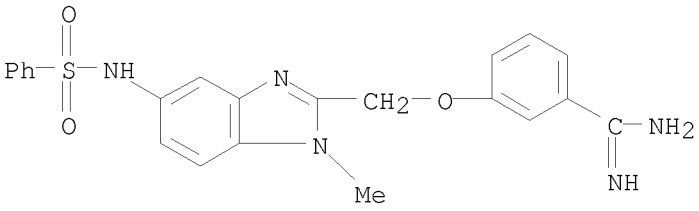
RN 256491-53-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenoxy]methyl]-5-[(8-quinolinylsulfonyl)amino]- (CA INDEX NAME)



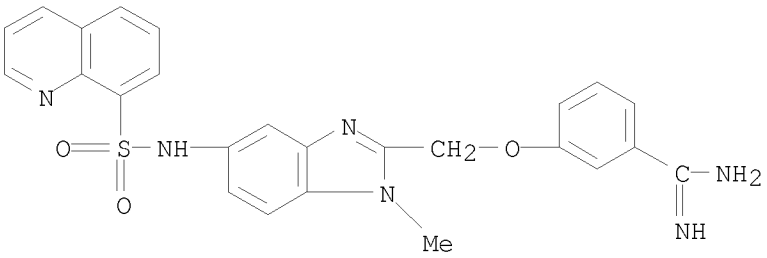
RN 256491-54-0 HCAPLUS
CN Glycine, N-[2-[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



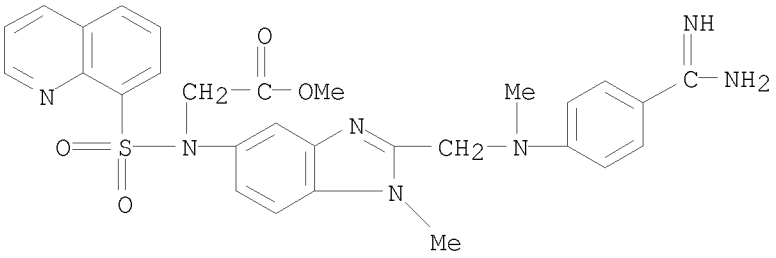
RN 256491-55-1 HCAPLUS
CN Benzenecarboximidamide, 3-[[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methoxy]- (CA INDEX NAME)



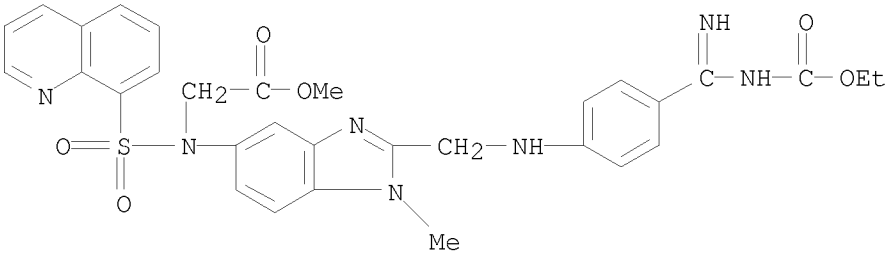
RN 256491-56-2 HCAPLUS
CN Benzenecarboximidamide, 3-[[1-methyl-5-[(8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methoxy]- (CA INDEX NAME)



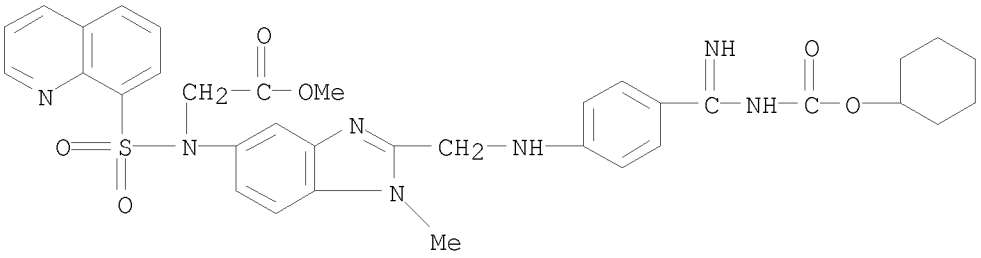
RN 256491-57-3 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]methylamino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



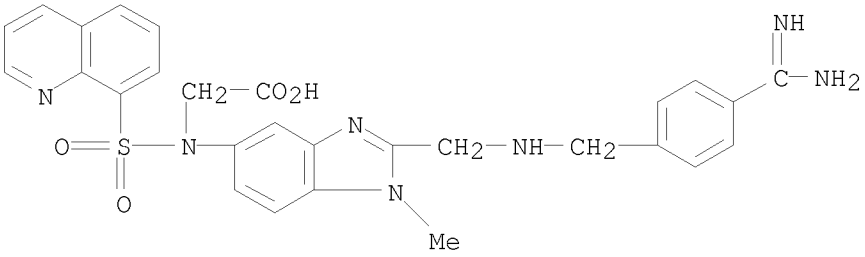
RN 256491-58-4 HCAPLUS
CN Glycine, N-[2-[[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



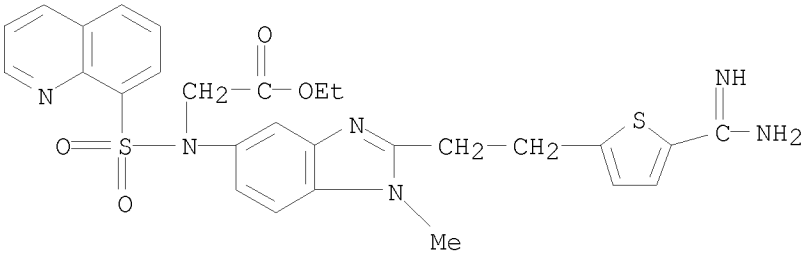
RN 256491-59-5 HCAPLUS
CN Glycine, N-[2-[[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



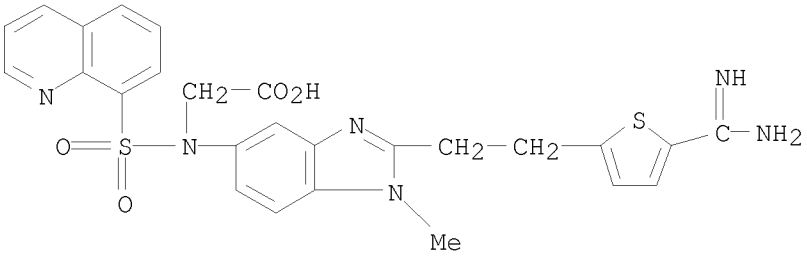
RN 256491-64-2 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]methyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



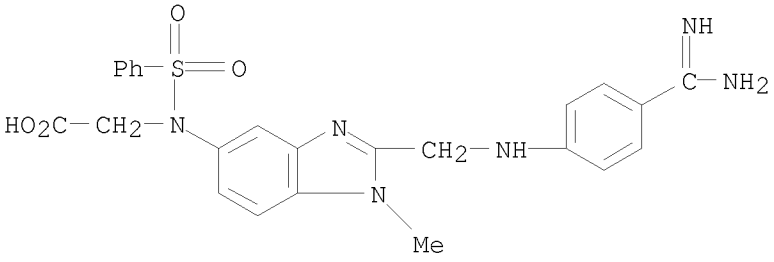
RN 256491-67-5 HCAPLUS
CN Glycine, N-[2-[2-[5-(aminoiminomethyl)-2-thienyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



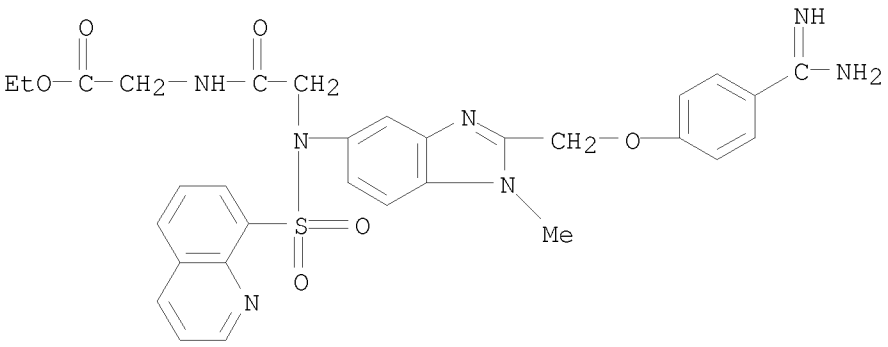
RN 256491-68-6 HCAPLUS
CN Glycine, N-[2-[2-[5-(aminoiminomethyl)-2-thienyl]ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



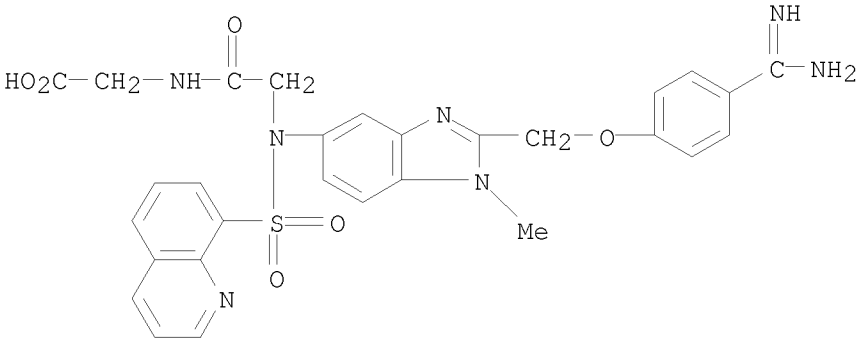
RN 256491-70-0 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)- (CA INDEX NAME)



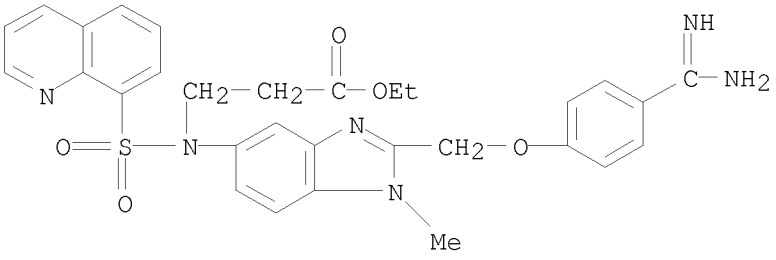
RN 256491-81-3 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



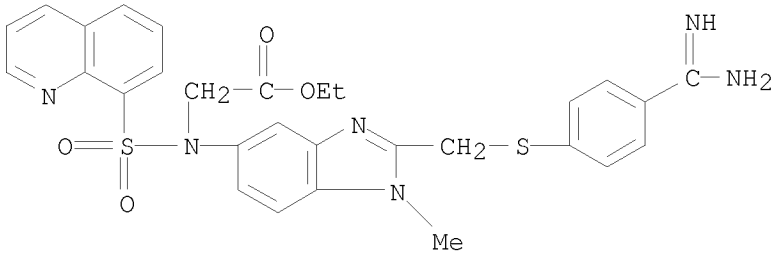
RN 256491-82-4 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl- (CA INDEX NAME)



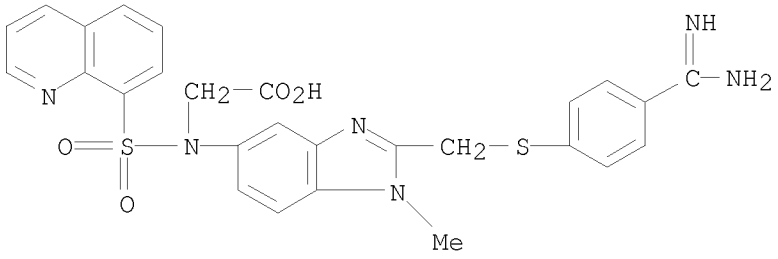
RN 256491-83-5 HCAPLUS
CN β-Alanine, N-[2-[[4-(aminoiminomethyl)phenoxy]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



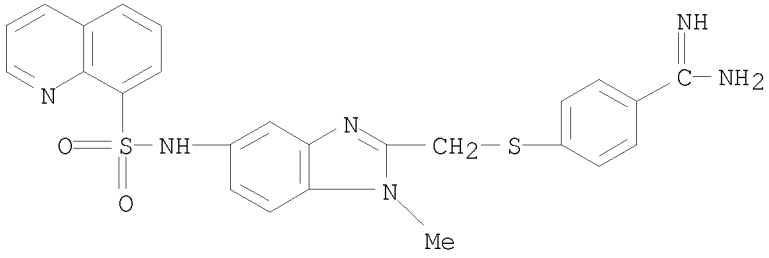
RN 256492-12-3 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]thio]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



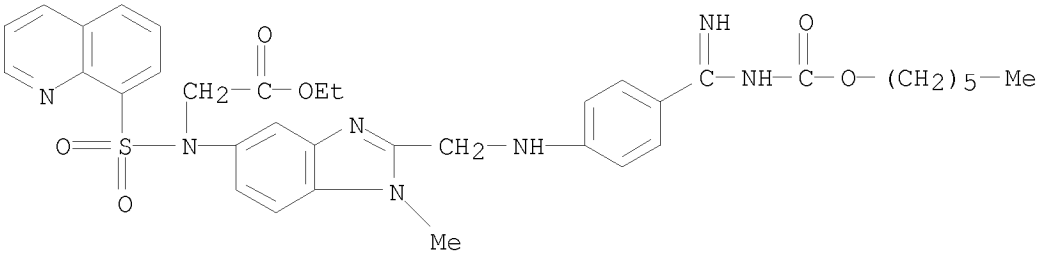
RN 256492-13-4 HCAPLUS
CN Glycine, N-[2-[[[4-(aminoiminomethyl)phenyl]thio]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



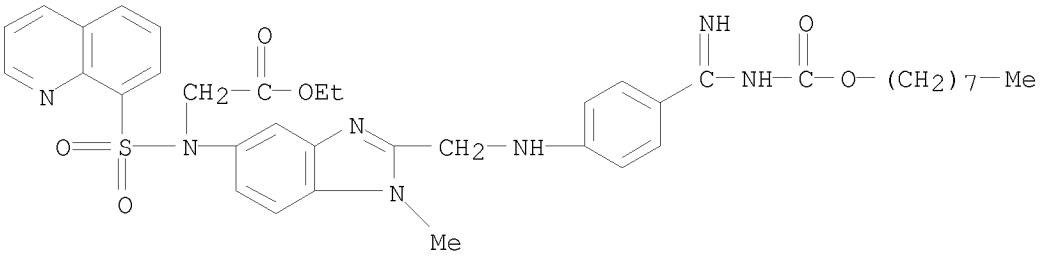
RN 256492-14-5 HCAPLUS
CN Benzenecarboximidamide, 4-[[[1-methyl-5-[(8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]thio]- (CA INDEX NAME)



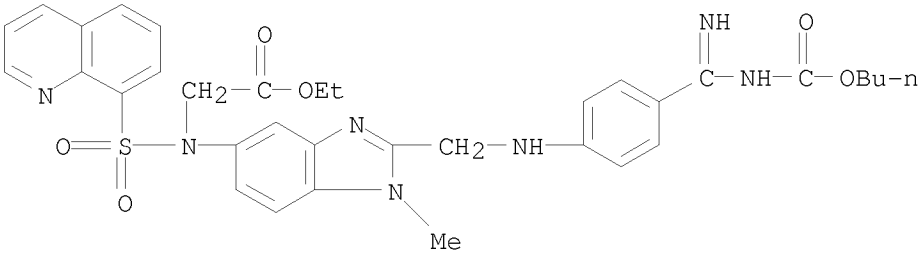
RN 256492-41-8 HCAPLUS
CN Glycine, N-[2-[[[4-[[[(hexyloxy)carbonyl]amino]iminomethyl]phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



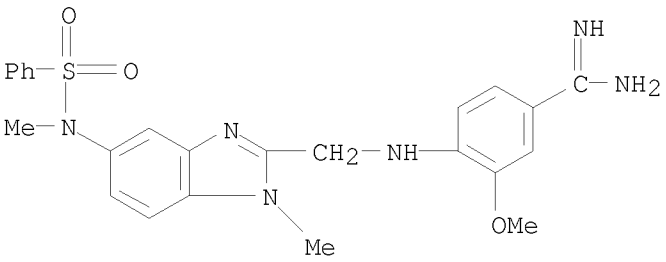
RN 256492-42-9 HCAPLUS
CN Glycine, N-[2-[[[4-[imino[[(octyloxy)carbonyl]amino]methyl]phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 256492-43-0 HCAPLUS
CN Glycine, N-[2-[[[4-[[(butoxycarbonyl)amino]iminomethyl]phenyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)

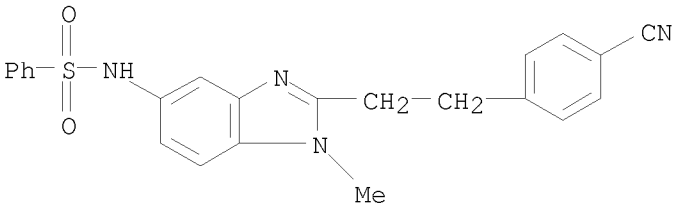


RN 256492-44-1 HCAPLUS
CN Benzenecarboximidamide, 3-methoxy-4-[[[1-methyl-5-[methyl(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]amino]- (CA INDEX NAME)

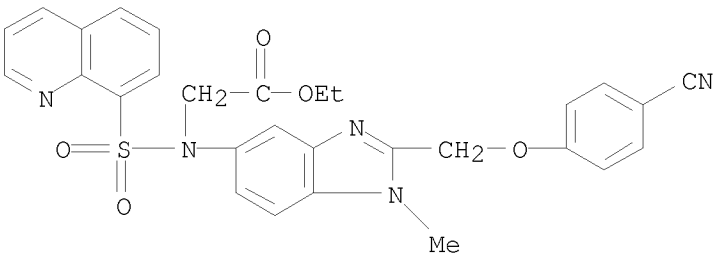


IT 256493-19-3 256493-23-9 256493-24-0
256493-26-2 256493-27-3 256493-28-4
256493-29-5 256493-30-8 256493-31-9
256493-32-0 256493-33-1 256493-35-3
256493-36-4 256493-37-5 256493-38-6
256493-39-7 256493-40-0 256493-42-2
256493-44-4 256493-45-5 256493-54-6
256493-55-7 256493-68-2 256493-69-3
256493-80-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of heterocyclylalkylbenzamidines and analogs as thrombin inhibitors)

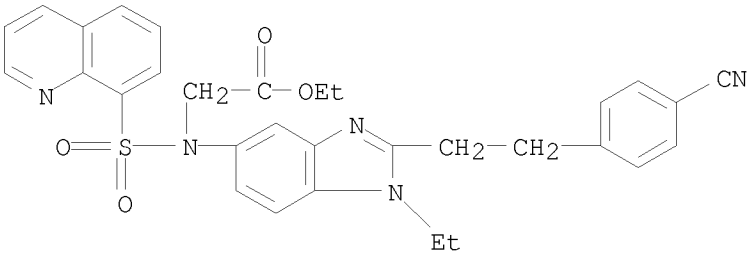
RN 256493-19-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



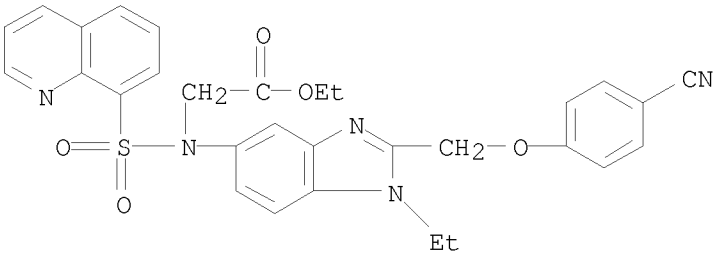
RN 256493-23-9 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



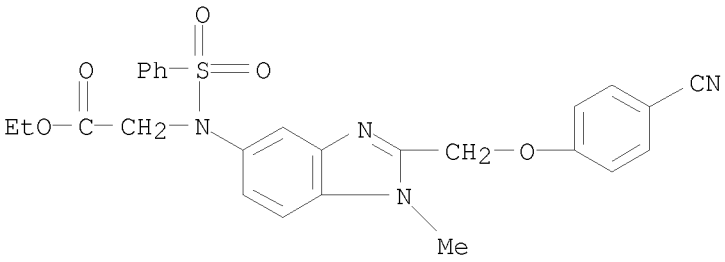
RN 256493-24-0 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



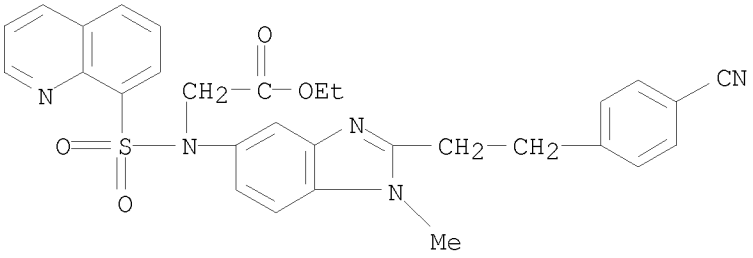
RN 256493-26-2 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenoxy)methyl]-1-ethyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



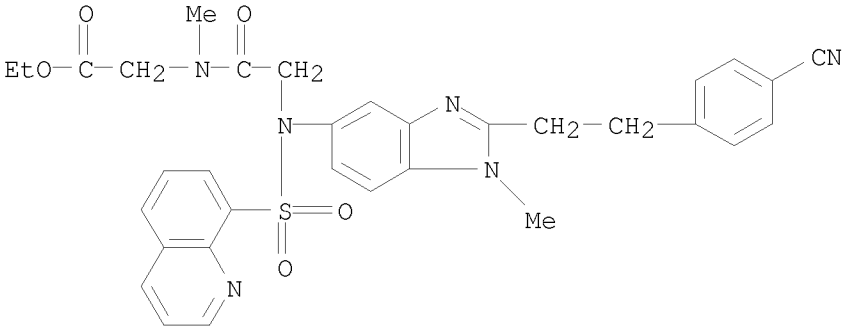
RN 256493-27-3 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



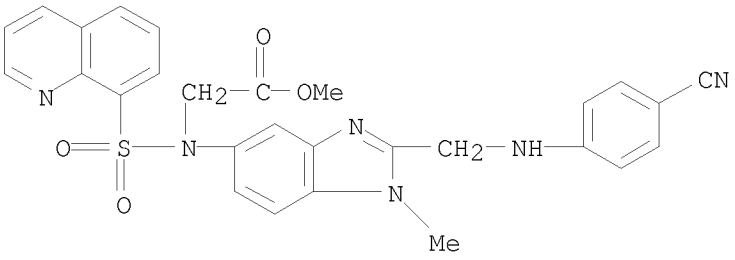
RN 256493-28-4 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



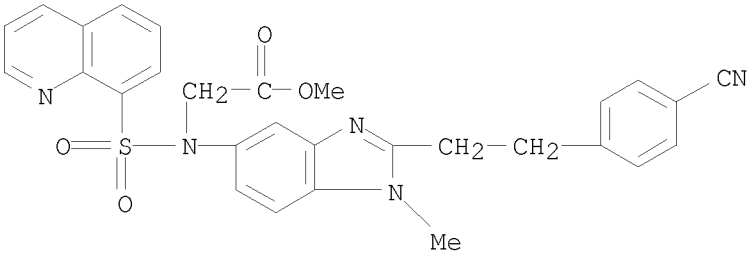
RN 256493-29-5 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, ethyl ester (CA INDEX NAME)



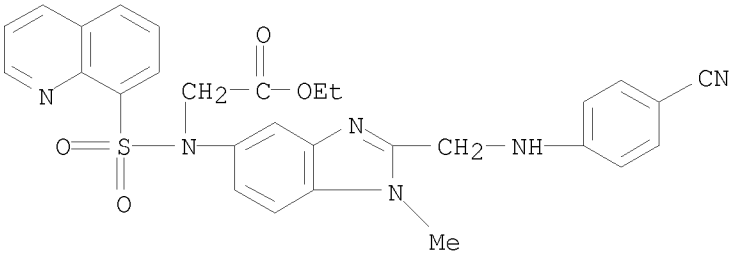
RN 256493-30-8 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



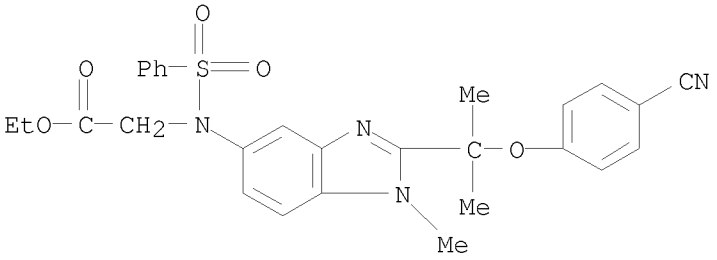
RN 256493-31-9 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



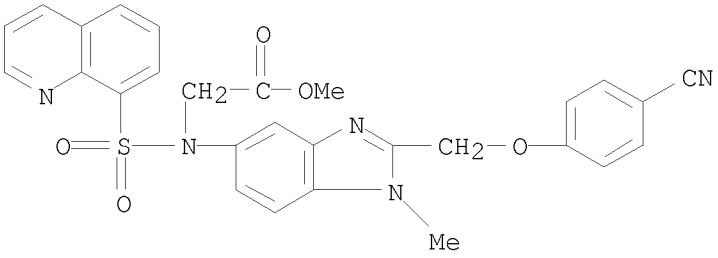
RN 256493-32-0 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



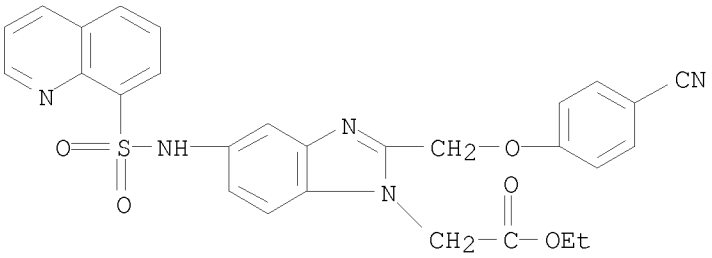
RN 256493-33-1 HCAPLUS
CN Glycine, N-[2-[1-(4-cyanophenoxy)-1-methylethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



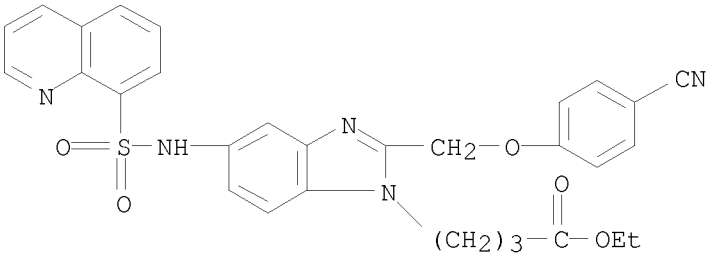
RN 256493-35-3 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



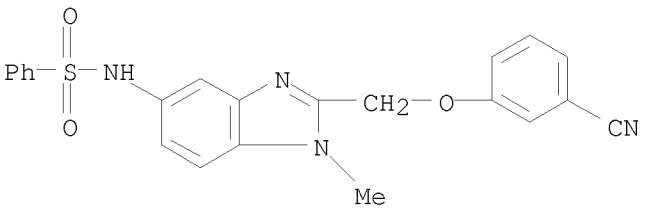
RN 256493-36-4 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenoxy)methyl]-5-[(8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



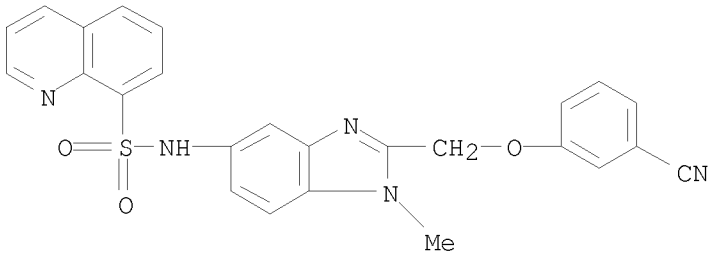
RN 256493-37-5 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenoxy)methyl]-5-[(8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



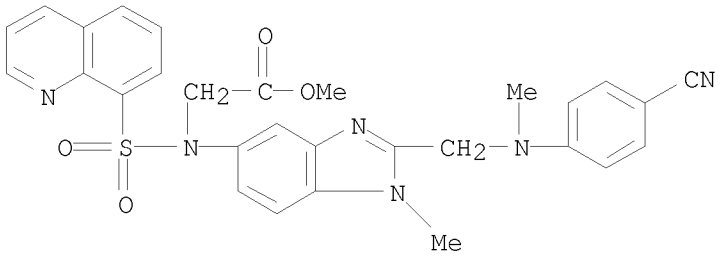
RN 256493-38-6 HCAPLUS
CN Benzenesulfonamide, N-[2-[(3-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



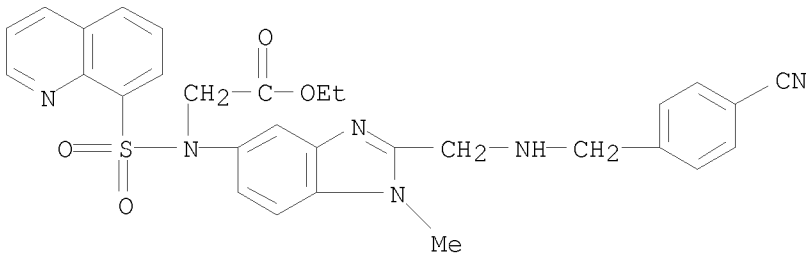
RN 256493-39-7 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(3-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



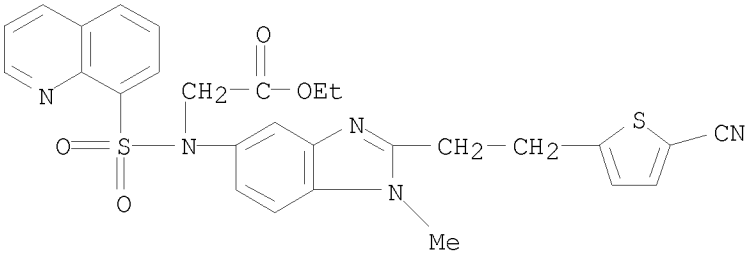
RN 256493-40-0 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)methylamino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



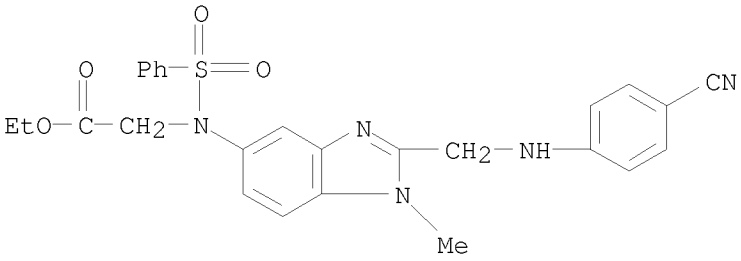
RN 256493-42-2 HCAPLUS
CN Glycine, N-[2-[[[(4-cyanophenyl)methyl]amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



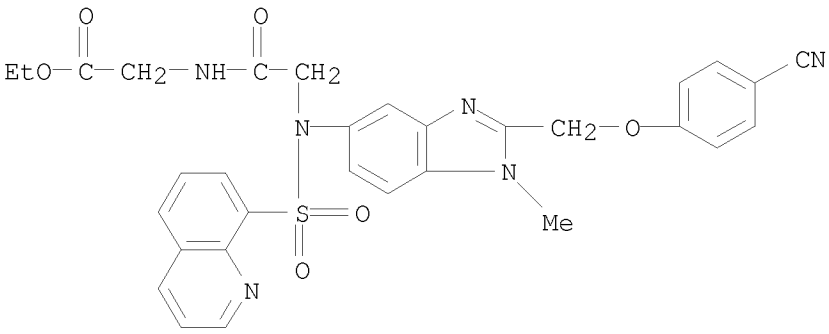
RN 256493-44-4 HCAPLUS
CN Glycine, N-[2-[2-(5-cyano-2-thienyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



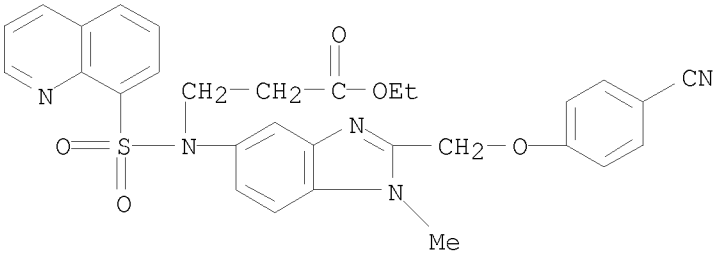
RN 256493-45-5 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



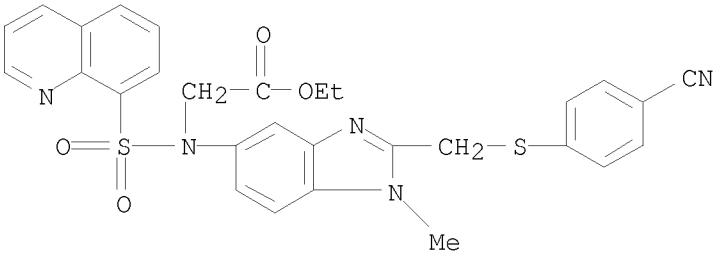
RN 256493-54-6 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



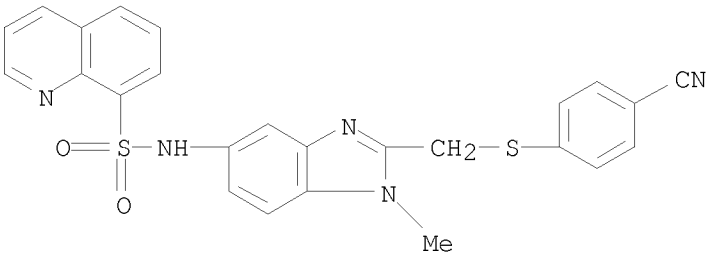
RN 256493-55-7 HCAPLUS
CN β-Alanine, N-[2-[(4-cyanophenoxy)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



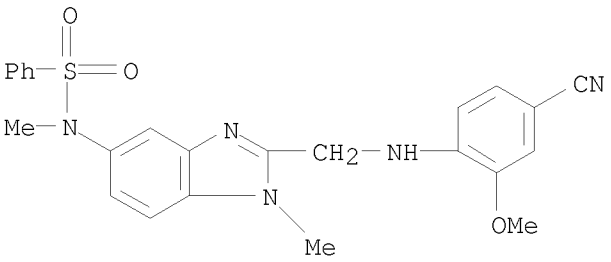
RN 256493-68-2 HCAPLUS
CN Glycine, N-[2-[[(4-cyanophenyl)thio]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 256493-69-3 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[[(4-cyanophenyl)thio]methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)

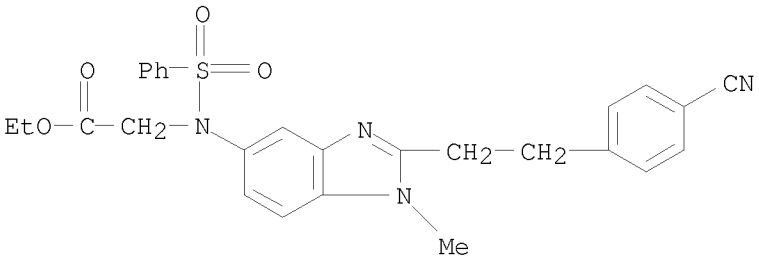


RN 256493-80-8 HCAPLUS
CN Benzenesulfonamide, N-[2-[[(4-cyano-2-methoxyphenyl)amino]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-methyl- (CA INDEX NAME)

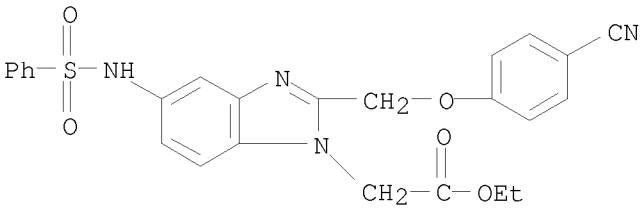


IT 256492-50-9P 256492-55-4P 256492-56-5P
256492-59-8P 256492-60-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of heterocyclylalkylbenzamidines and analogs as thrombin inhibitors)

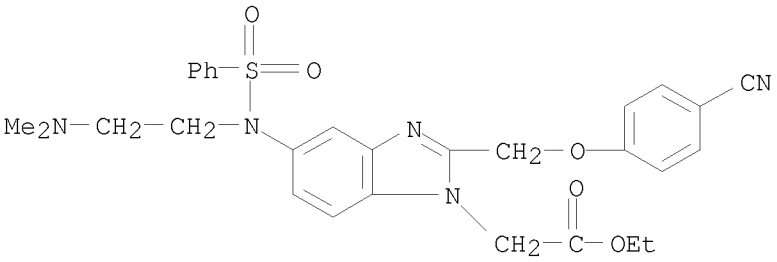
RN 256492-50-9 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



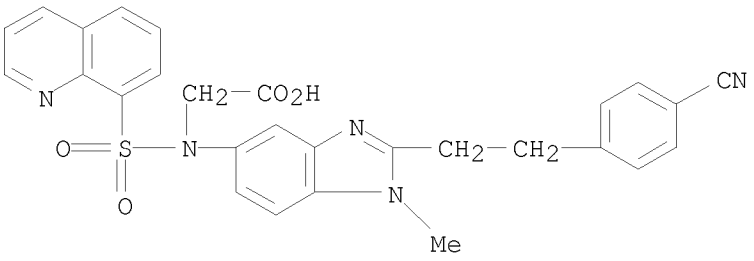
RN 256492-55-4 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenoxy)methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



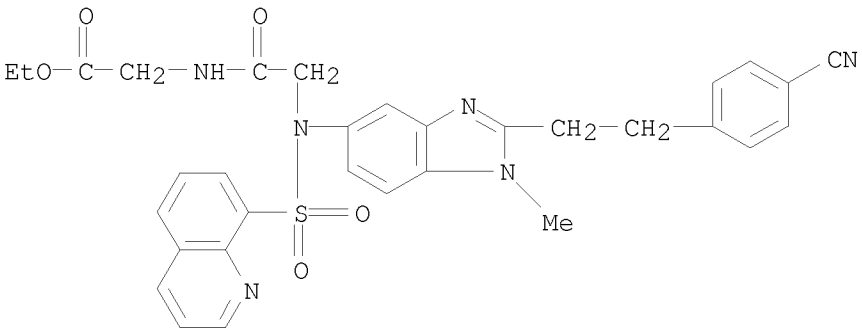
RN 256492-56-5 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenoxy)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



RN 256492-59-8 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



RN 256492-60-1 HCAPLUS
CN Glycine, N-[2-[2-(4-cyanophenyl)ethyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



L9 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:511140 HCAPLUS
DOCUMENT NUMBER: 131:157771
TITLE: Preparation of five-membered, benzo-condensed heterocycles as antithrombotics
INVENTOR(S): Ries, Uwe; Hauel, Norbert; Mihm, Gerhard; Priepke, Henning; Binder, Klaus; Stassen, Jean Marie; Wienen, Wolfgang; Zimmermann, Rainer
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma Kg, Germany

SOURCE: PCT Int. Appl., 250 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9940072	A1	19990812	WO 1999-EP537	19990128 <--
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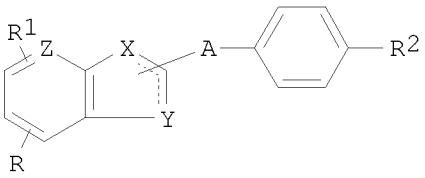
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19804085	A1	19990805	DE 1998-19804085	19980203 <--
DE 19834325	A1	20000217	DE 1998-19834325	19980730 <--
CA 2319494	A1	19990812	CA 1999-2319494	19990128 <--
AU 9927201	A	19990823	AU 1999-27201	19990128 <--
EP 1060166	A1	20001220	EP 1999-907437	19990128 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002502844	T	20020129	JP 2000-530502	19990128 <--
MX 2000005785	A	20010123	MX 2000-5785	20000612 <--

PRIORITY APPLN. INFO.:
DE 1998-19804085 A 19980203
DE 1998-19834325 A 19980730
WO 1999-EP537 W 19990128

OTHER SOURCE(S): MARPAT 131:157771
GI



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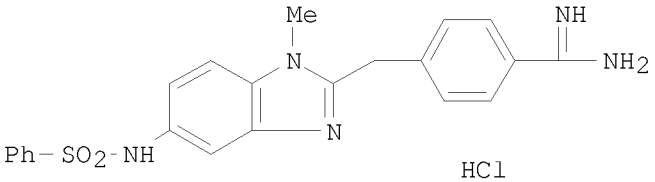


II

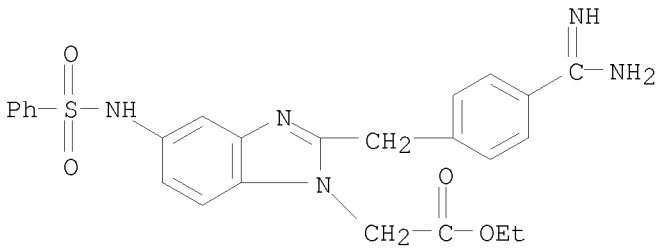
AB Title compds. [I; R = 5-C6H5SO2NH, 6-C6H5SO2NH, 5-C6H5NHSO2,

5-C6H5SO2N(CH2COOEt), 5-C6H5SO2N(CH3), 5-C6H5N(CH2CH2CH2COOEt)CO, 5-C6H5, CH3N(C6H5)CO, 8; R1 = H, 7-CH3, 3-Br, 3-EtO; R2 = C(:NH)NH2; A = CH2, NH; X = CH, MeN, EtOCOCH2CH2N, O, S, NCH2CO2H; Y = N, CH, CH:CH; Z = CH, N; dotted bond = single, double in relation to X; A is attached at 2,or 8 position depending on the heterocyclic ring] and their tautomers, stereoisomers, mixts. and their physiol. compatible salts with inorg. or organic acids or bases are prepared and title compds in which R2 is a cyano group, present valuable intermediate products for the production of the remaining compds. of the general formula I, with R2 is amidino, which have valuable pharmacol. properties, especially an antithrombotic activity. Thus, the title compound II was prepared

IT 236414-44-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(preparation of five-membered benzo-condensed heterocycles as antithrombotics)

RN 236414-44-1 HCAPLUS

CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



● HCl

IT 236414-28-1P 236414-34-9P 236414-40-7P
236414-42-9P 236414-45-2P 236414-46-3P
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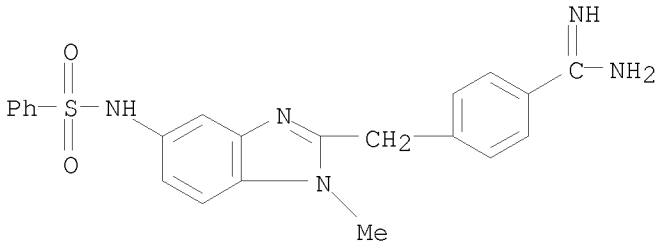
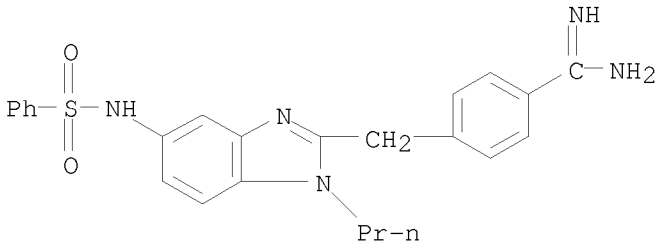
236415-97-7P 236415-98-8P 236415-99-9P
236416-01-6P 236416-23-2P 236416-35-6P
236416-36-7P 236416-46-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of five-membered benzo-condensed heterocycles as antithrombotics)

RN 236414-28-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)

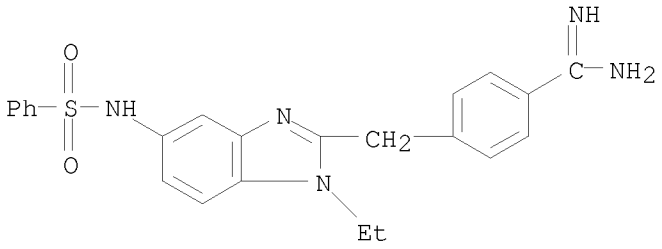


RN 236414-34-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



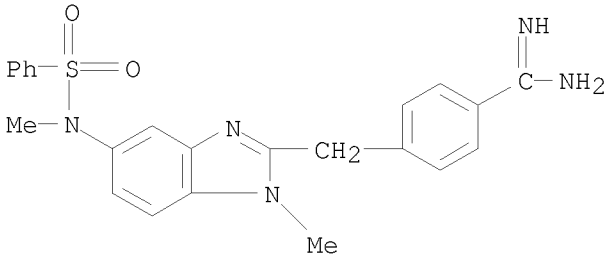
● HCl

RN 236414-40-7 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-ethyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

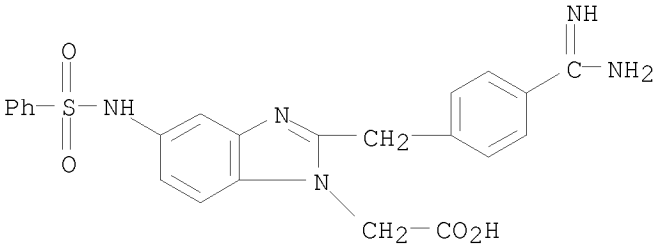
RN 236414-42-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[methyl(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



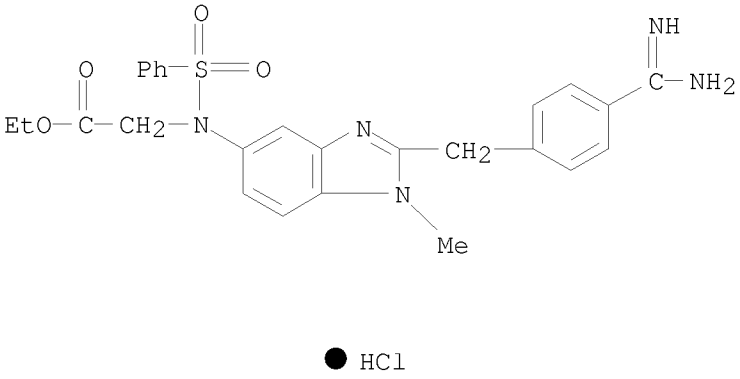
● HCl

RN 236414-45-2 HCAPLUS

CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]- (CA INDEX NAME)

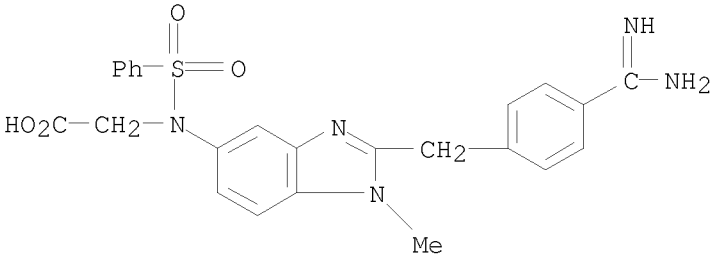


RN 236414-46-3 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



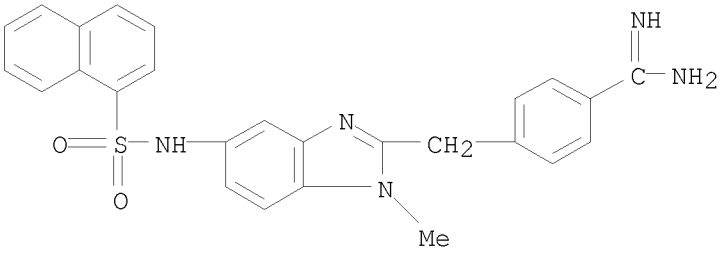
● HCl

RN 236414-47-4 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



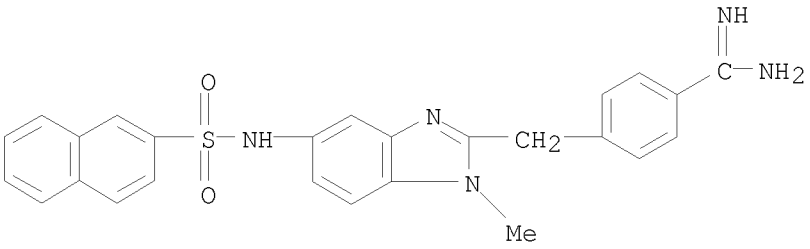
● HCl

RN 236414-51-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(1-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



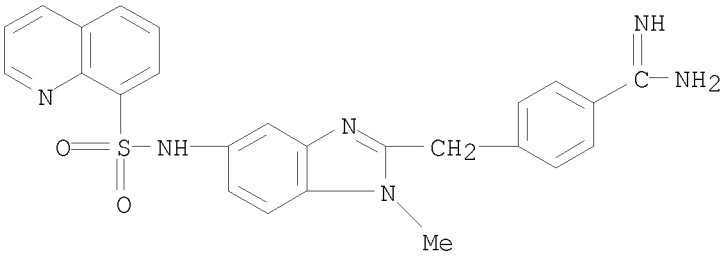
● HCl

RN 236414-52-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(2-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



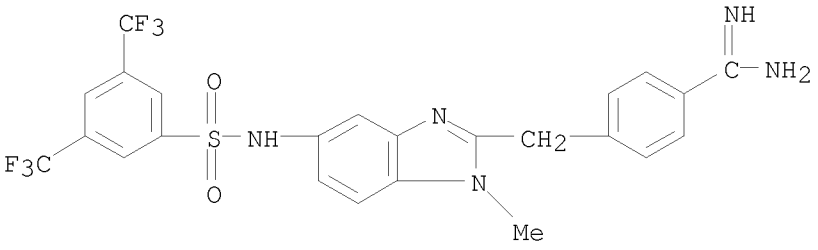
● HCl

RN 236414-54-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



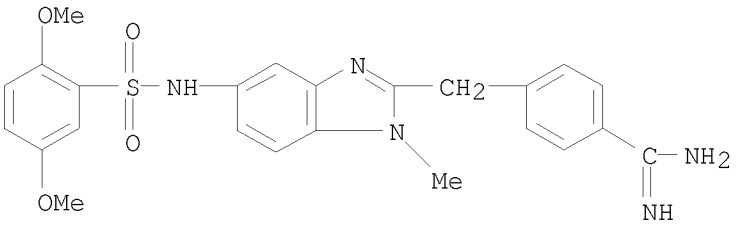
● HCl

RN 236414-55-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[[3,5-bis(trifluoromethyl)phenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

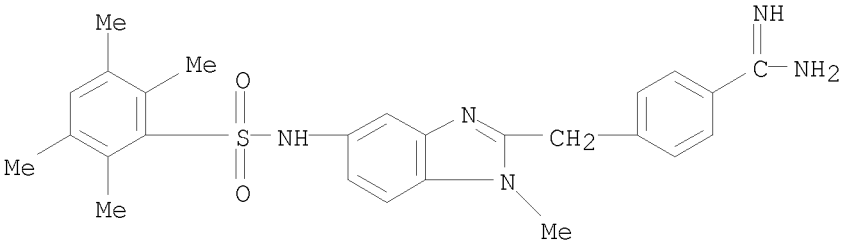
RN 236414-56-5 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[(2,5-dimethoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

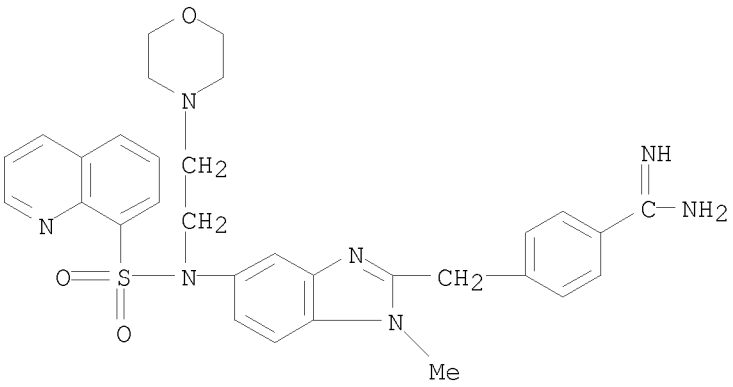
RN 236414-57-6 HCAPLUS

CN Benzenecarboximidamide, 4-[[1-methyl-5-[[(2,3,5,6-tetramethylphenyl)sulfonyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



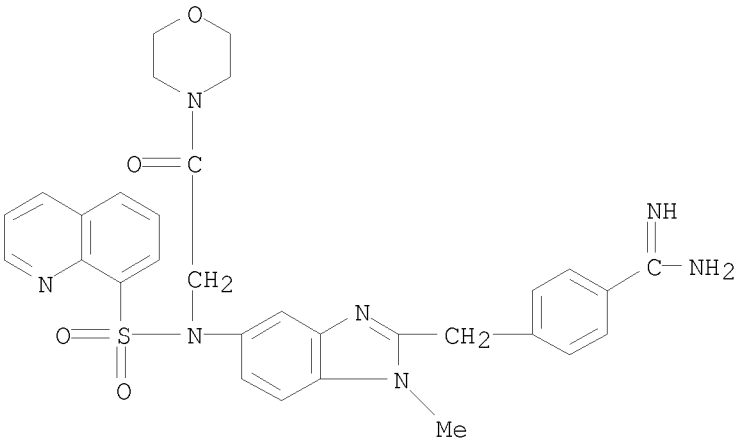
● HCl

RN 236414-69-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)ethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



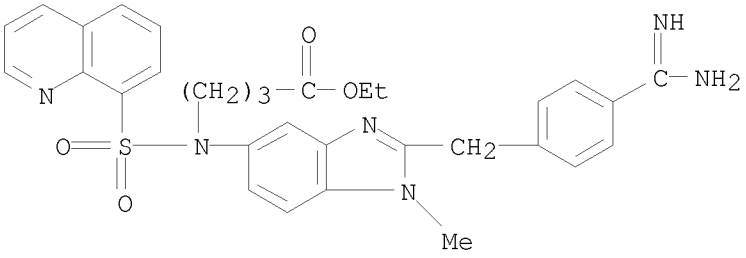
●2 HCl

RN 236414-70-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)-2-oxoethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



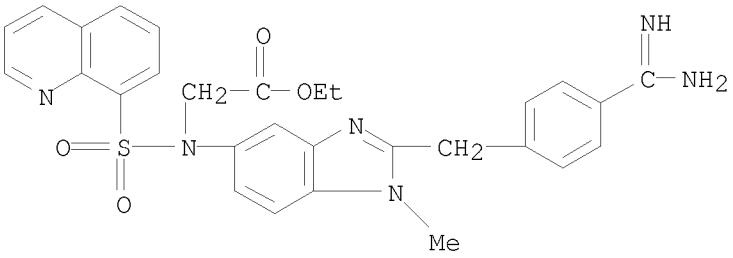
● HCl

RN 236414-71-4 HCAPLUS
CN Butanoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



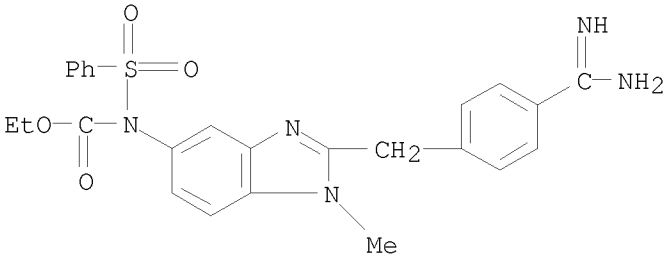
● HCl

RN 236414-72-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



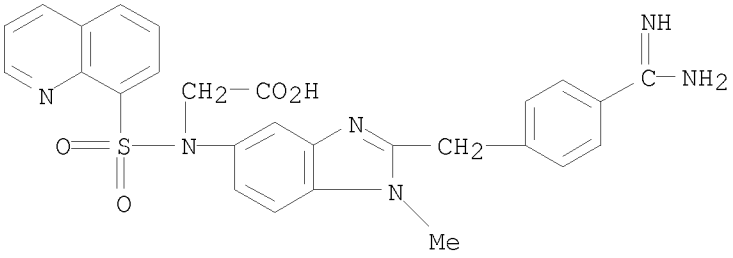
● HCl

RN 236414-75-8 HCAPLUS
CN Carbamic acid, [2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



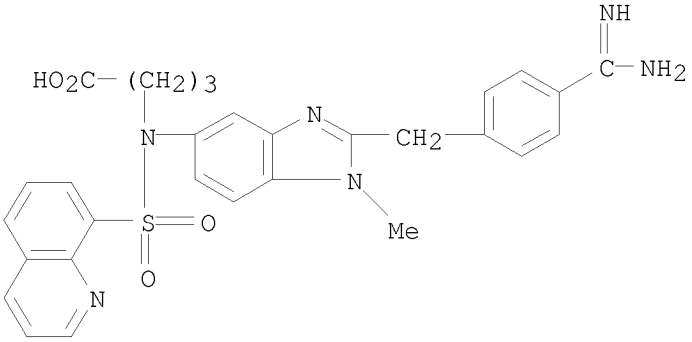
● HCl

RN 236414-80-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



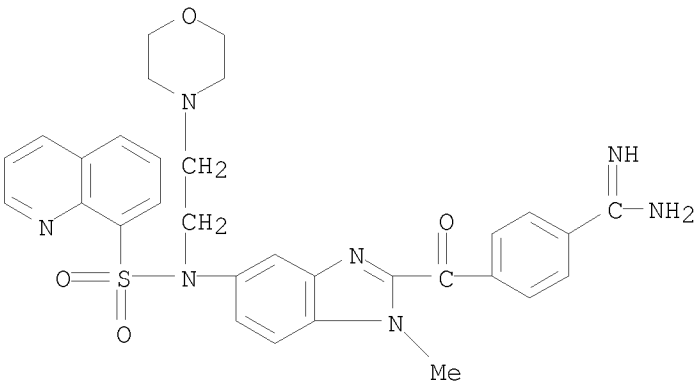
● HCl

RN 236414-81-6 HCAPLUS
CN Butanoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



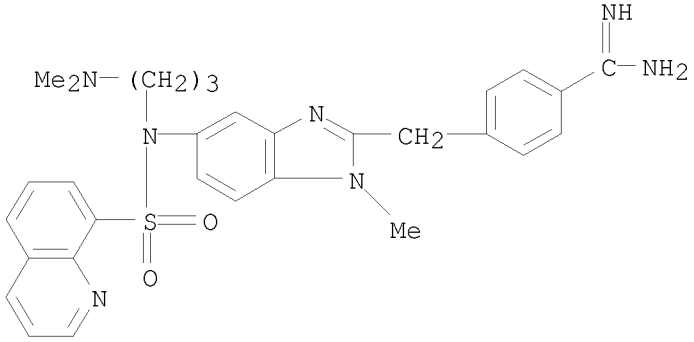
● HCl

RN 236414-82-7 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)ethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]carbonyl]-, hydrochloride (1:2) (CA INDEX NAME)



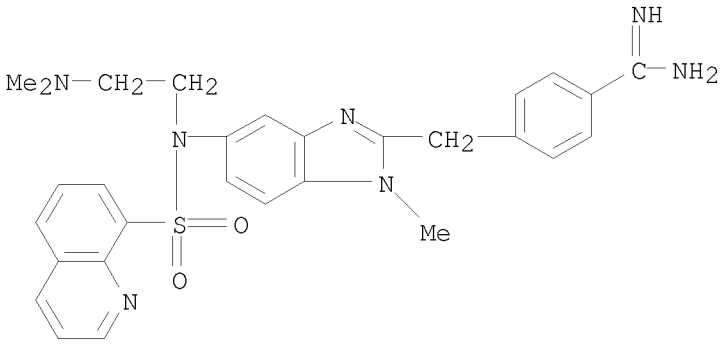
● 2 HCl

RN 236414-84-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[3-(dimethylamino)propyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



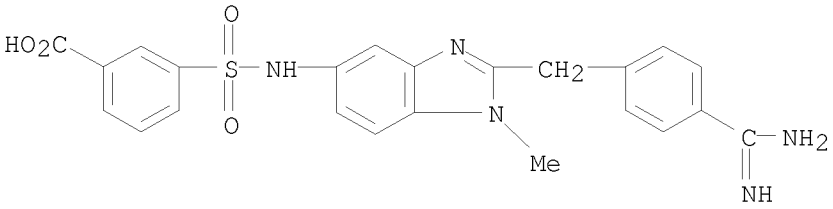
●2 HCl

RN 236414-85-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



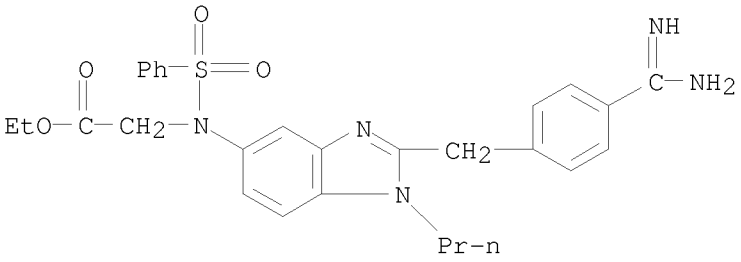
●2 HCl

RN 236414-87-2 HCAPLUS
CN Benzoic acid, 3-[[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]-, hydrochloride (1:1) (CA INDEX NAME)



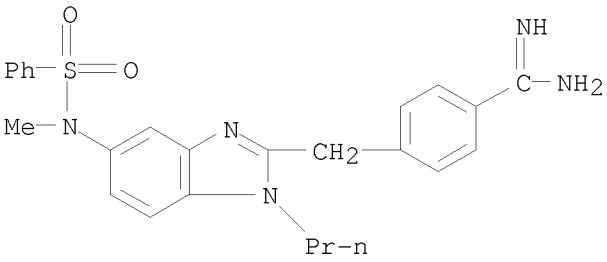
● HCl

RN 236414-89-4 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-propyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

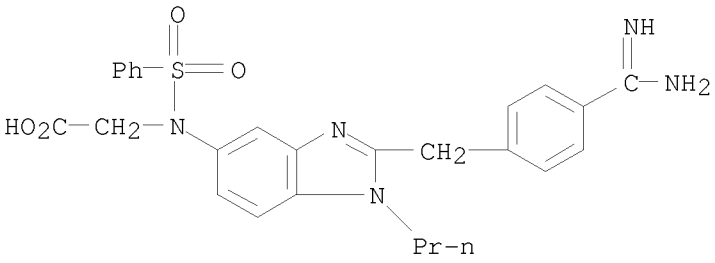
RN 236414-91-8 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[methyl(phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

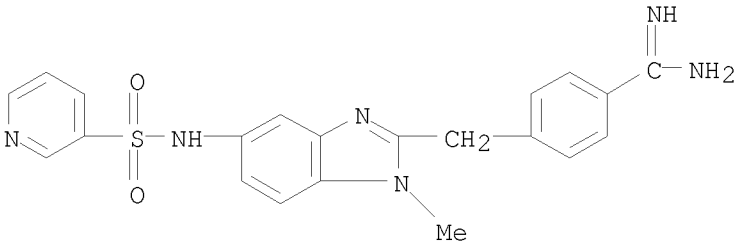
RN 236414-92-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-propyl-1H-

benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



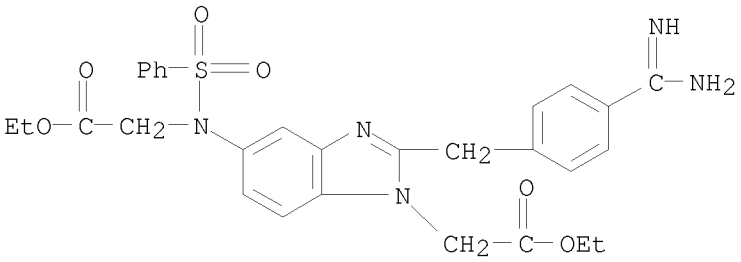
● HCl

RN 236414-96-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(3-pyridinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



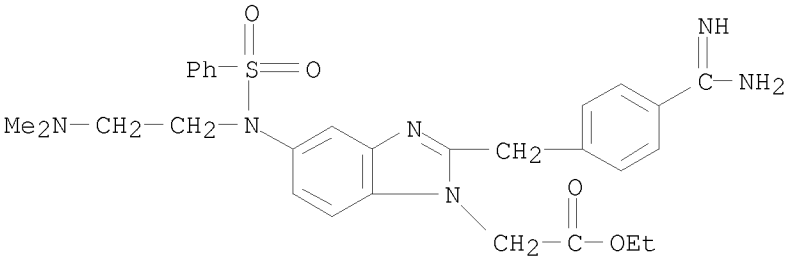
● HCl

RN 236414-97-4 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



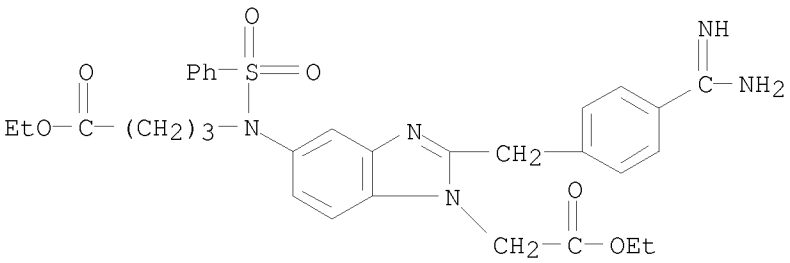
● HCl

RN 236414-98-5 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



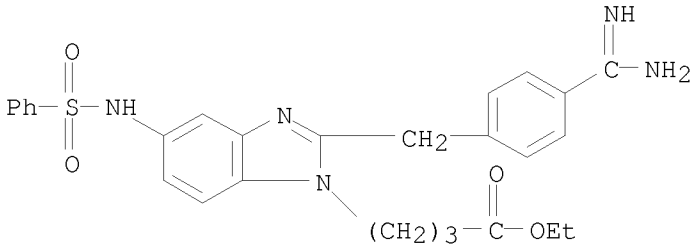
●2 HCl

RN 236415-05-7 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(4-ethoxy-4-oxobutyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



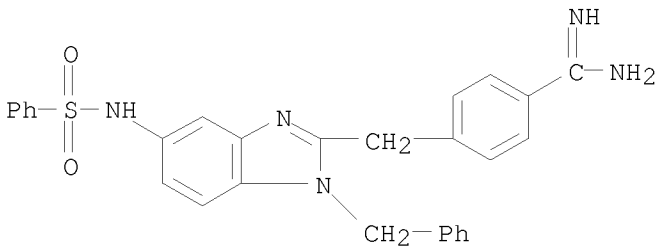
● HCl

RN 236415-07-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



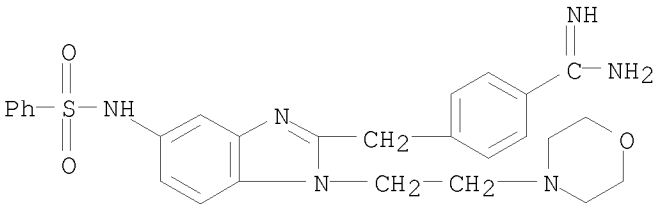
● HCl

RN 236415-08-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



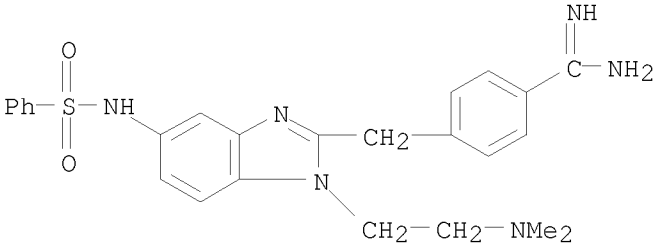
● HCl

RN 236415-09-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-[2-(4-morpholinyl)ethyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



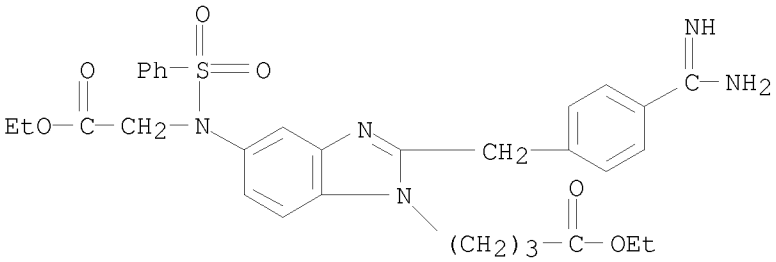
● 2 HCl

RN 236415-10-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-[2-(dimethylamino)ethyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



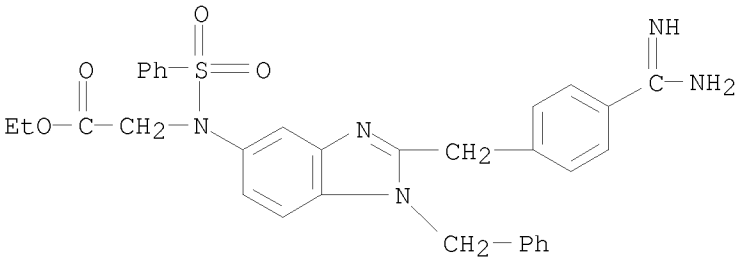
● 2 HCl

RN 236415-11-5 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



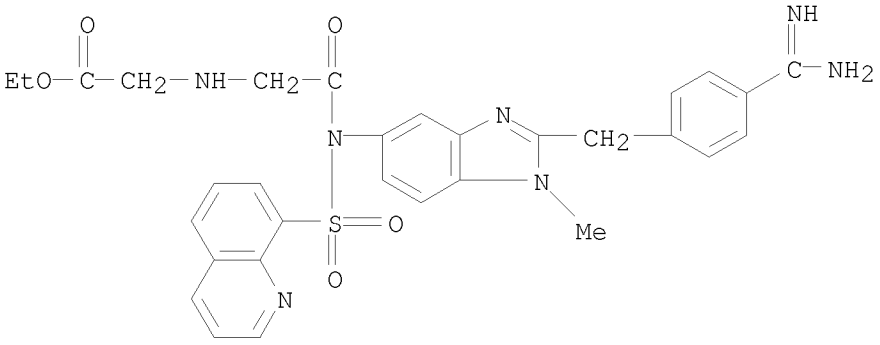
● HCl

RN 236415-12-6 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



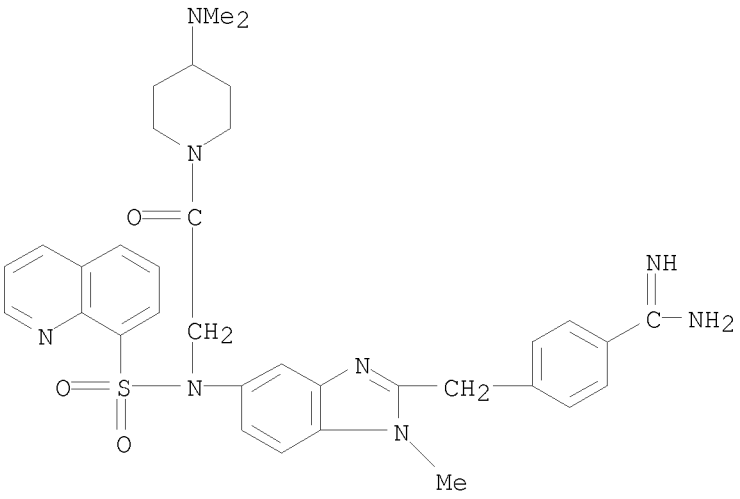
● HCl

RN 236415-14-8 HCAPLUS
CN Glycine, N-[2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



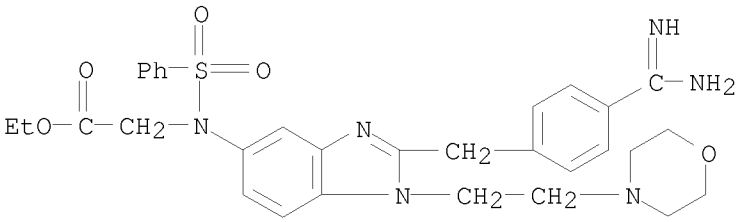
● HCl

RN 236415-15-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-[4-(dimethylamino)-1-piperidinyl]-2-oxoethyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



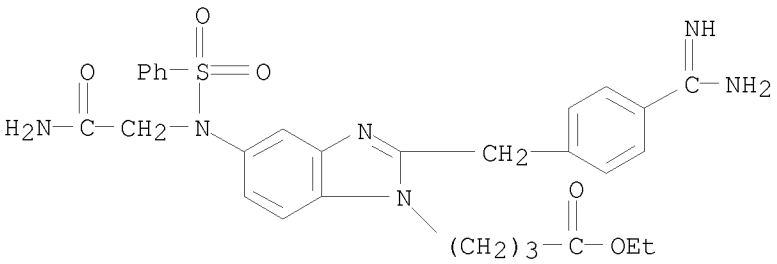
●2 HCl

RN 236415-16-0 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



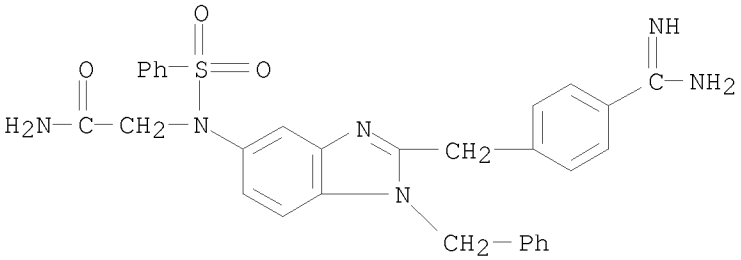
●2 HCl

RN 236415-18-2 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-amino-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



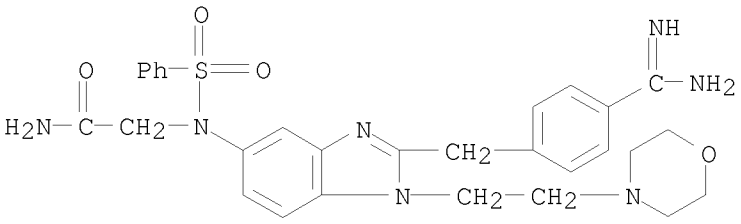
● HCl

RN 236415-19-3 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



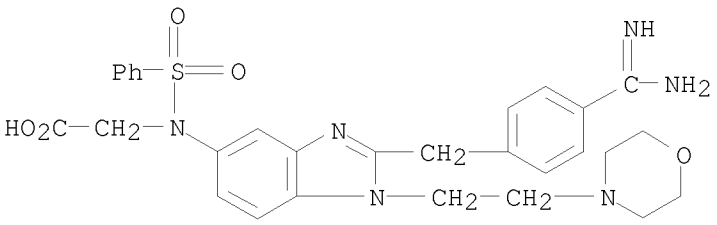
● HCl

RN 236415-20-6 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



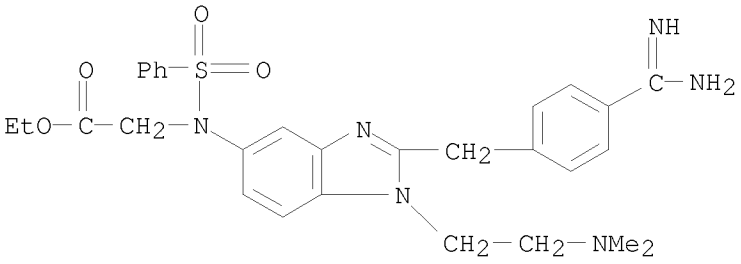
● 2 HCl

RN 236415-21-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, dihydrochloride (9CI) (CA INDEX NAME)



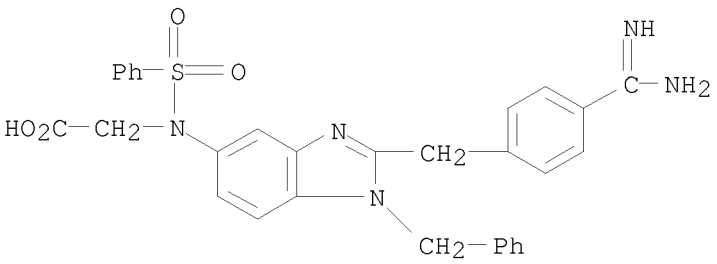
●2 HCl

RN 236415-22-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



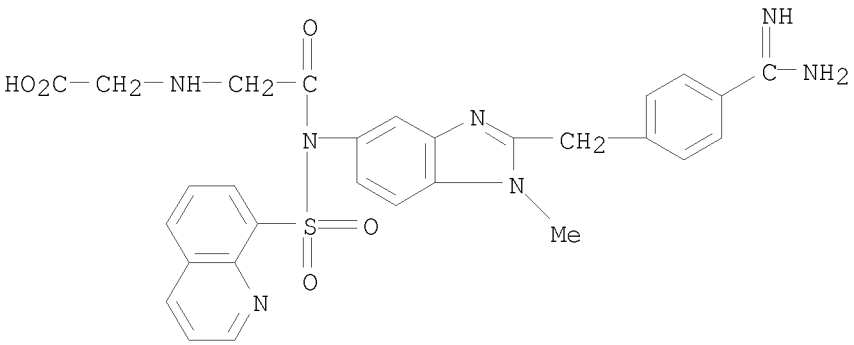
●2 HCl

RN 236415-23-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



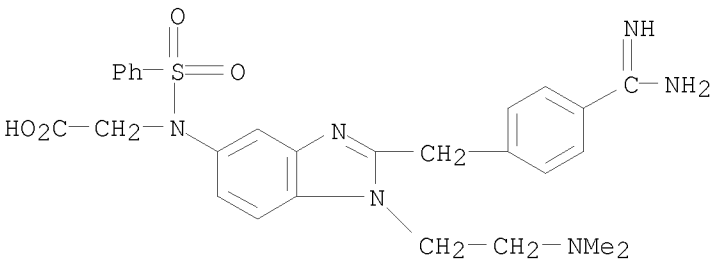
● HCl

RN 236415-24-0 HCAPLUS
CN Glycine, N-[2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

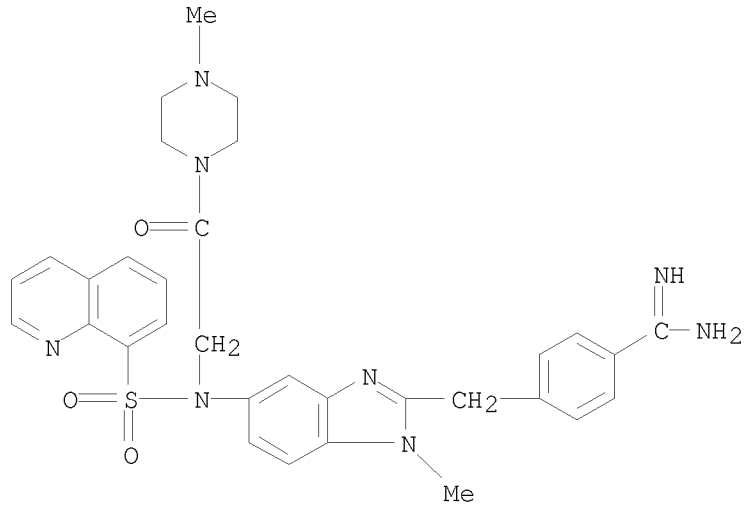
RN 236415-25-1 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 236415-26-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-methyl-1-piperazinyl)-2-oxoethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

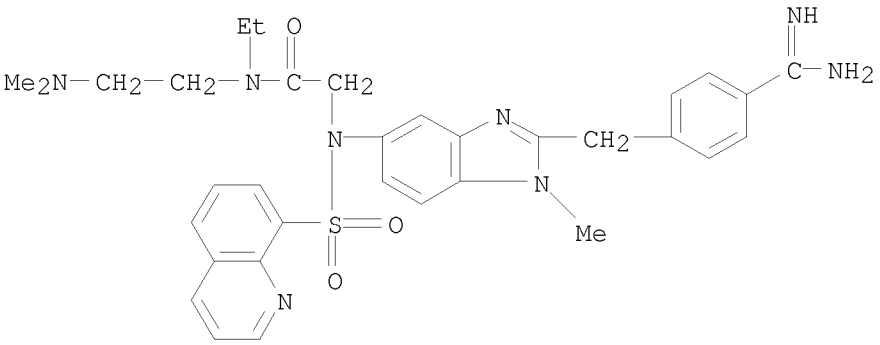
PAGE 1-A



PAGE 2-A

●2 HCl

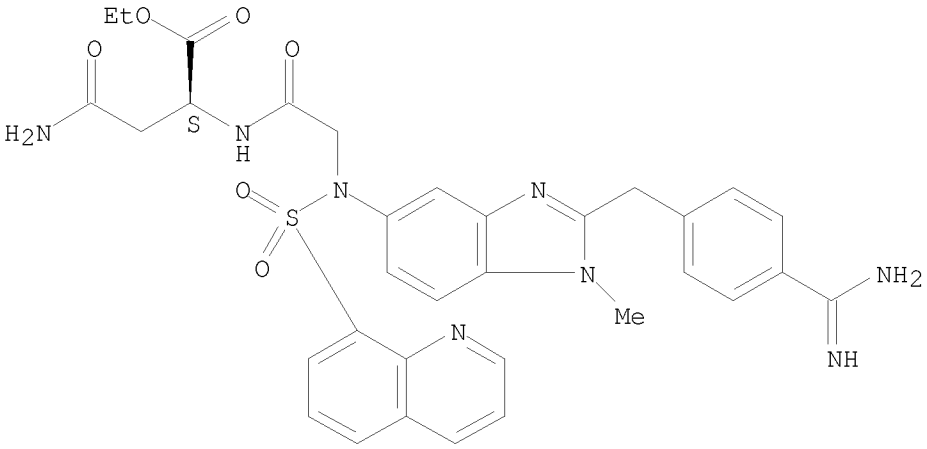
RN 236415-28-4 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-N-[2-(dimethylamino)ethyl]-N-ethyl-, hydrochloride (1:2) (CA INDEX NAME)



● 2 HCl

RN 236415-29-5 HCAPLUS
CN L-Asparagine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

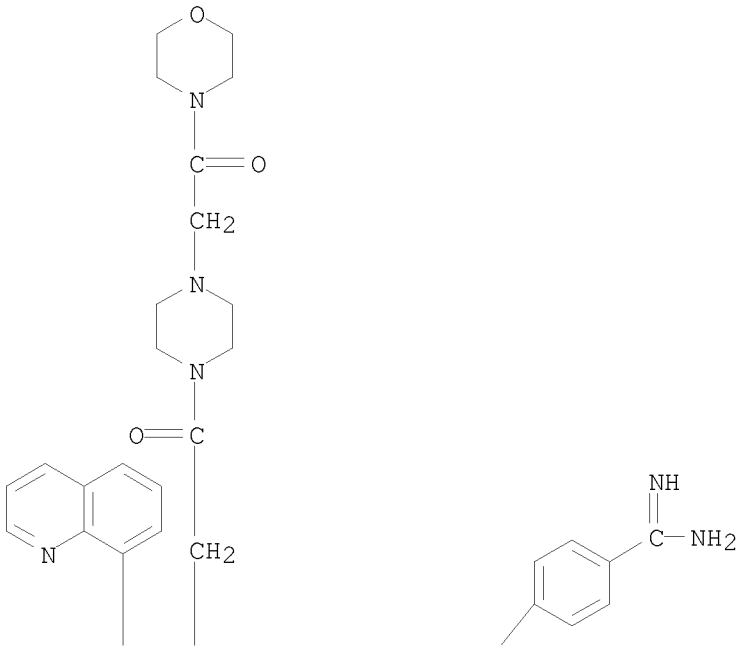
Absolute stereochemistry.



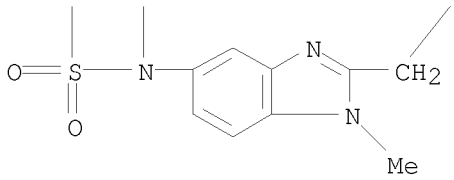
● HCl

RN 236415-30-8 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-[4-[2-(4-morpholinyl)-2-oxoethyl]-1-piperazinyl]-2-oxoethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

PAGE 1-A

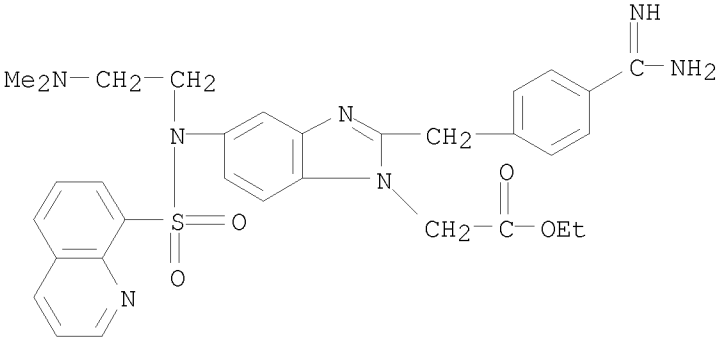


PAGE 2-A



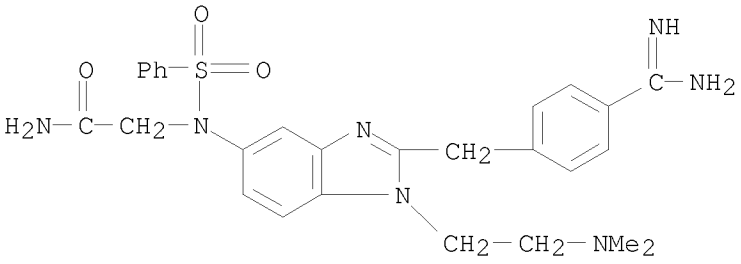
● 2 HCl

RN 236415-31-9 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



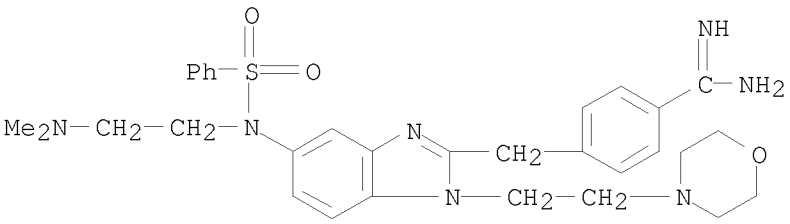
●2 HCl

RN 236415-32-0 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



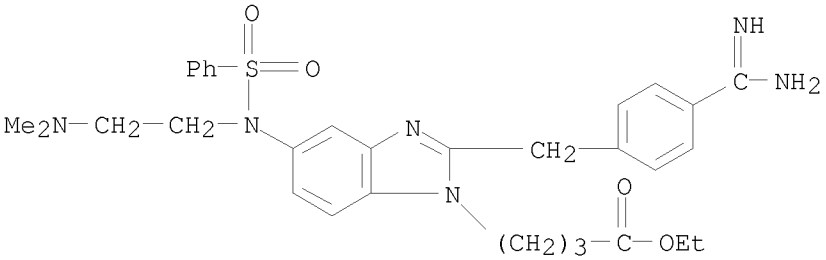
●2 HCl

RN 236415-34-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:3) (CA INDEX NAME)



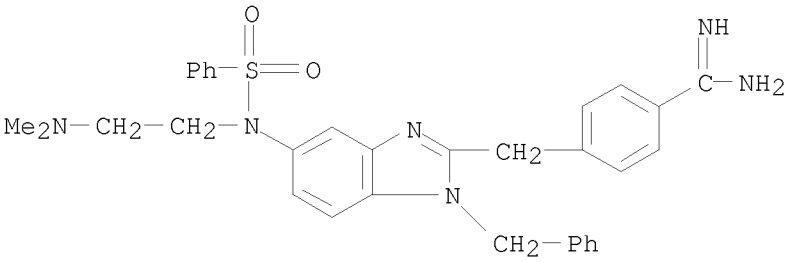
●3 HCl

RN 236415-35-3 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



●2 HCl

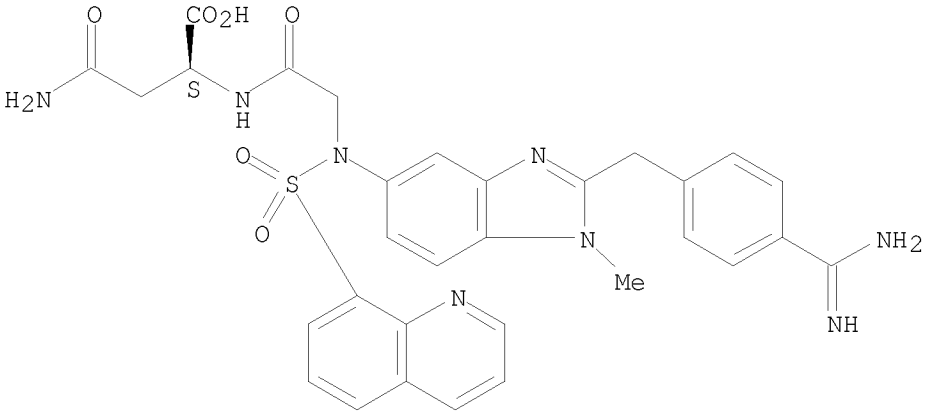
RN 236415-36-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-(phenylmethyl)-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



●2 HCl

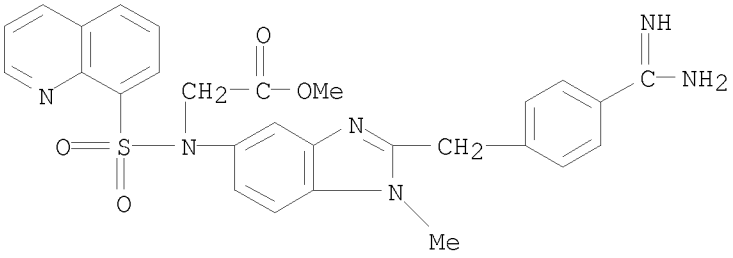
RN 236415-37-5 HCAPLUS
CN L-Asparagine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



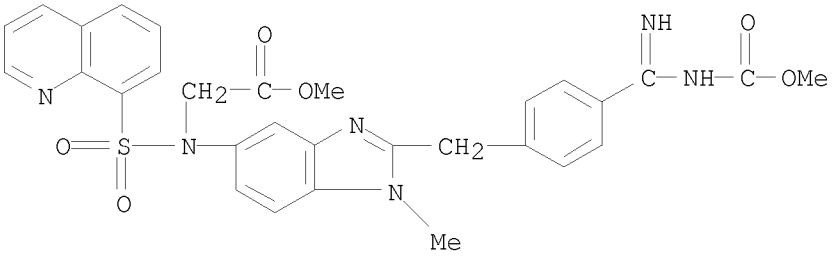
● HCl

RN 236415-39-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)

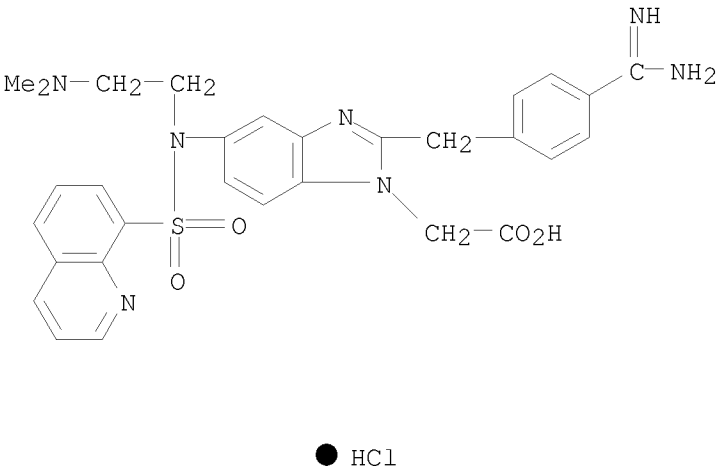


● HCl

RN 236415-40-0 HCAPLUS
CN Glycine, N-[2-[[4-[imino[(methoxycarbonyl)amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)

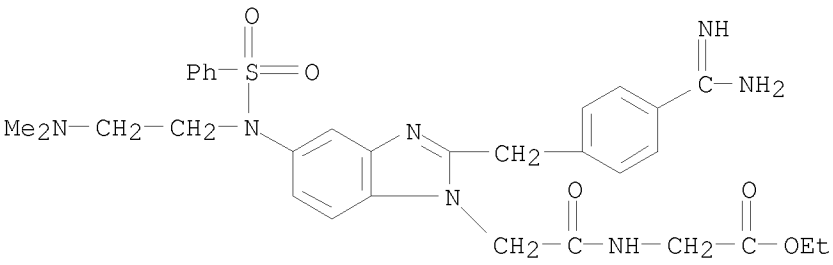


RN 236415-42-2 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



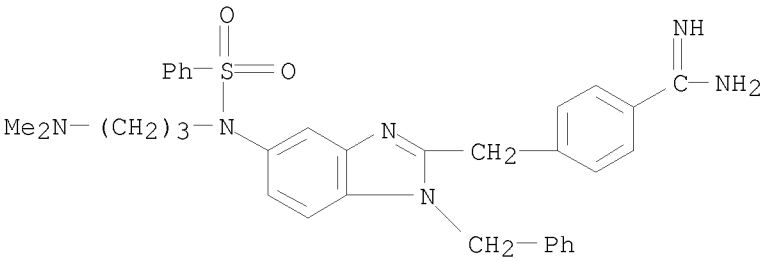
● HCl

RN 236415-43-3 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



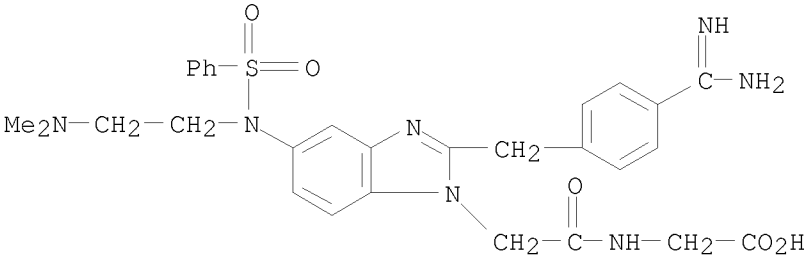
●2 HCl

RN 236415-44-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-1-(phenylmethyl)-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



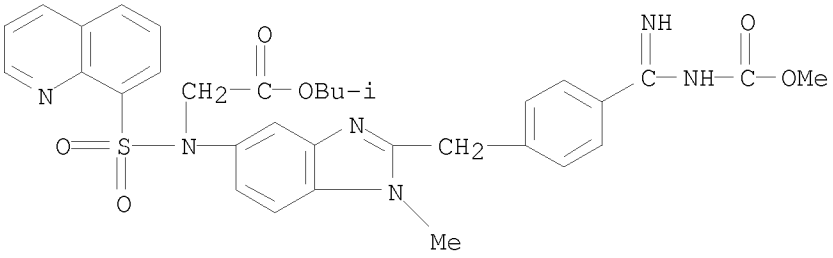
●2 HCl

RN 236415-45-5 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)

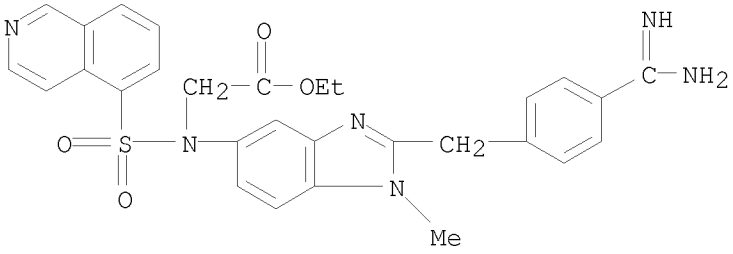


●2 HCl

RN 236415-46-6 HCAPLUS
CN Glycine, N-[2-[[4-[imino[(methoxycarbonyl)amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, 2-methylpropyl ester (CA INDEX NAME)

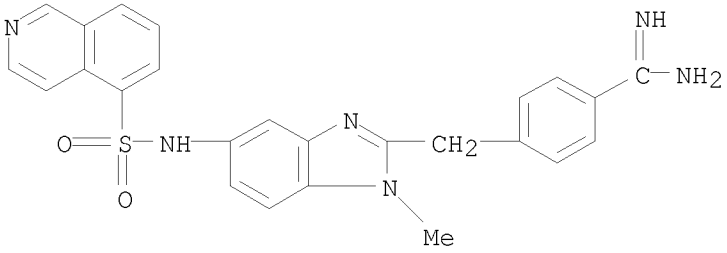


RN 236415-48-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(5-isoquinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



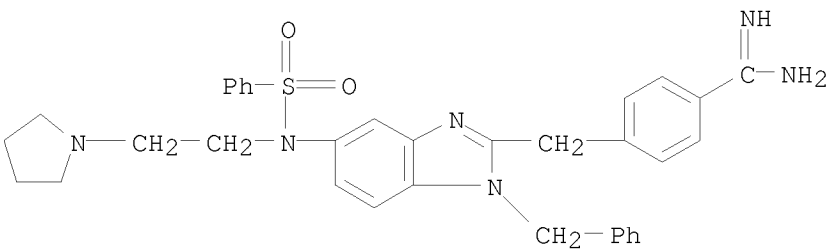
● HCl

RN 236415-49-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(5-isoquinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



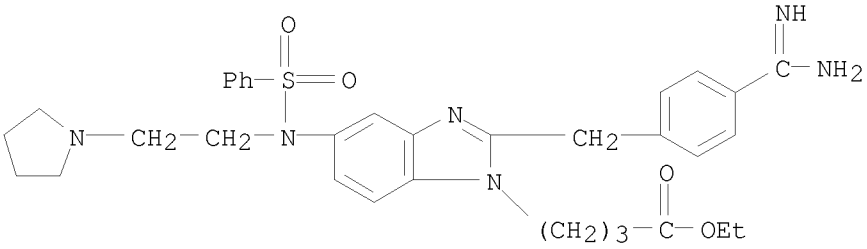
● HCl

RN 236415-50-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



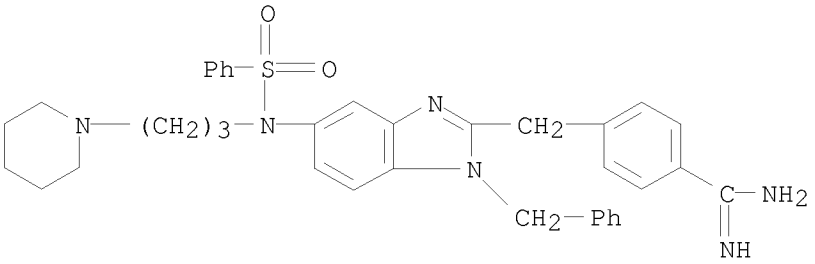
● 2 HCl

RN 236415-51-3 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



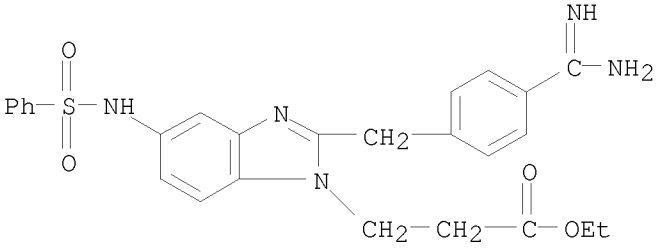
● 2 HCl

RN 236415-52-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



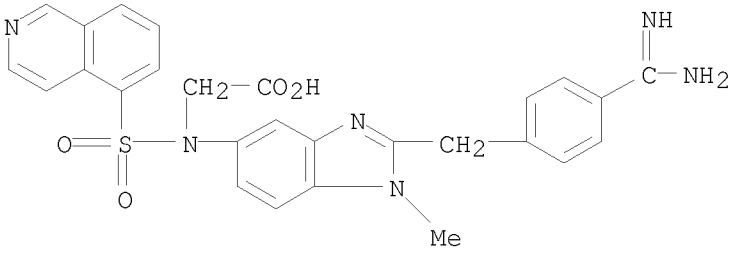
● 2 HCl

RN 236415-53-5 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



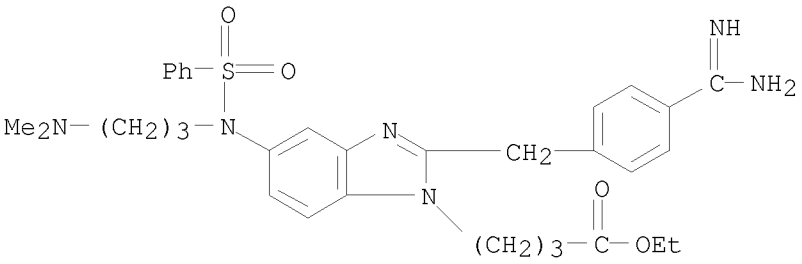
● HCl

RN 236415-55-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(5-isoquinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



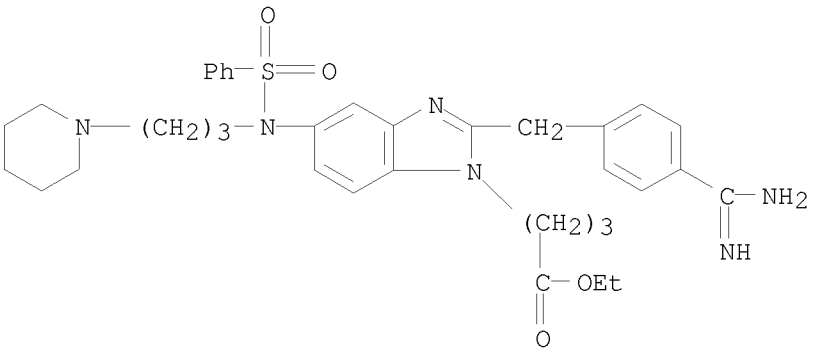
● HCl

RN 236415-56-8 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



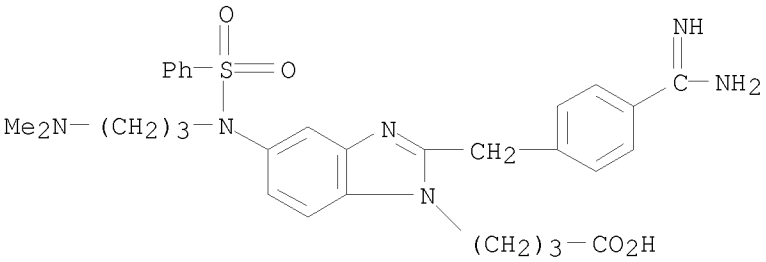
●2 HCl

RN 236415-57-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



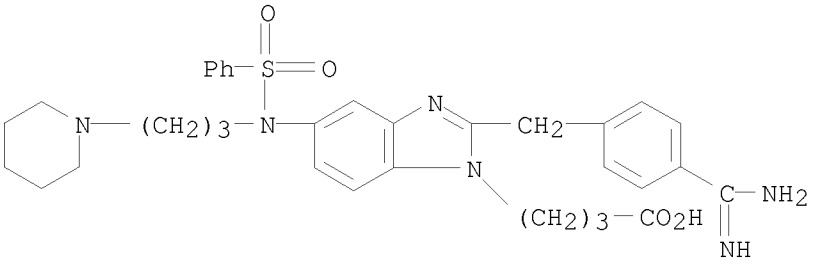
●2 HCl

RN 236415-58-0 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



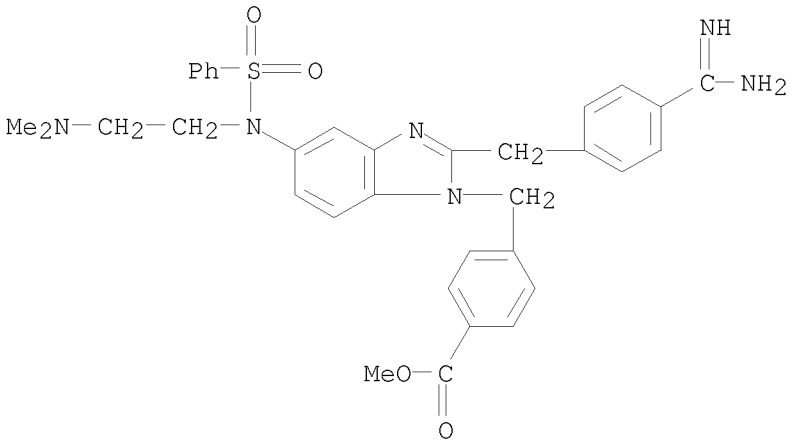
●2 HCl

RN 236415-59-1 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-, hydrochloride (1:2) (CA INDEX NAME)



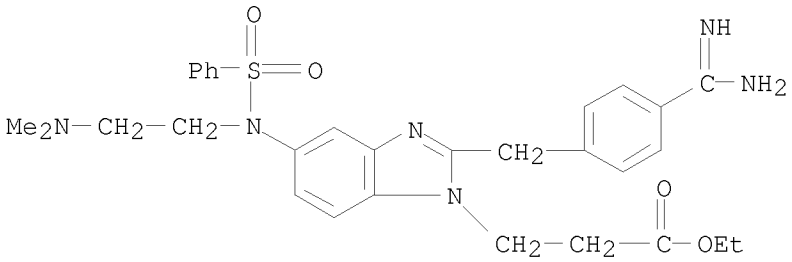
●2 HCl

RN 236415-60-4 HCAPLUS
CN Benzoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]methyl]-, methyl ester, hydrochloride (1:2) (CA INDEX NAME)



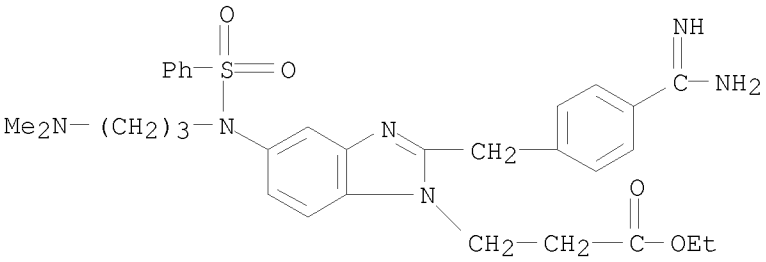
●2 HCl

RN 236415-62-6 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



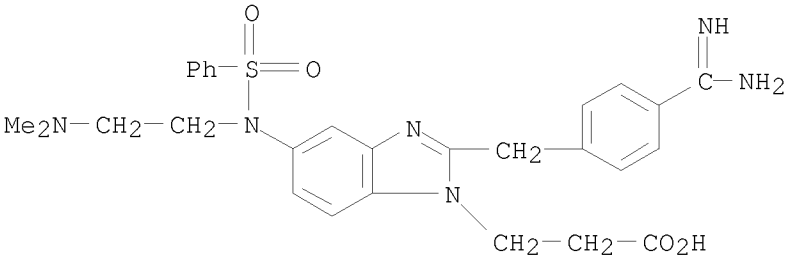
●2 HCl

RN 236415-63-7 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



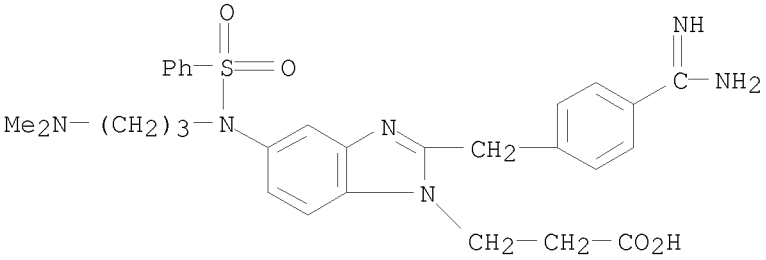
● 2 HCl

RN 236415-64-8 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



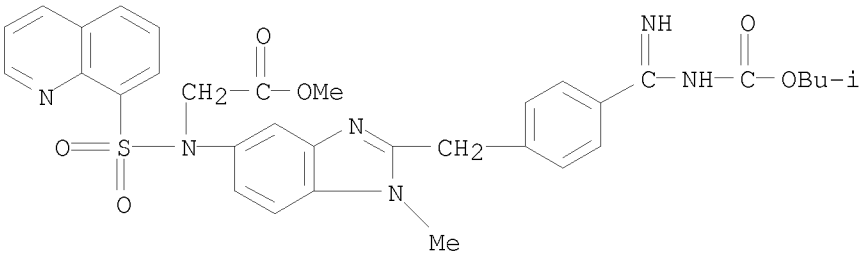
● 2 HCl

RN 236415-65-9 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)

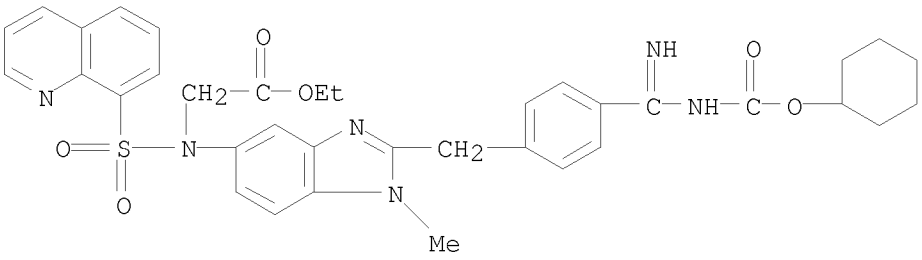


● 2 HCl

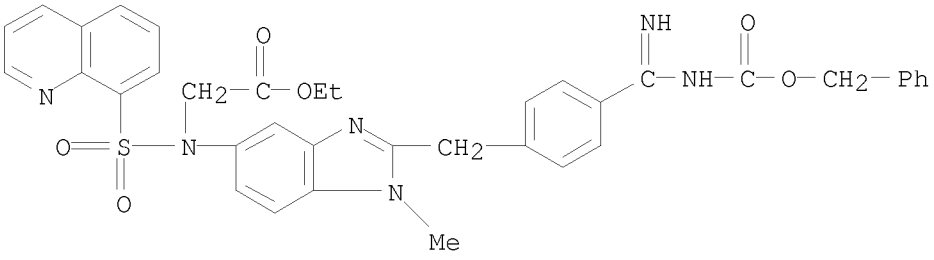
RN 236415-70-6 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(2-methylpropoxy)carbonyl]amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



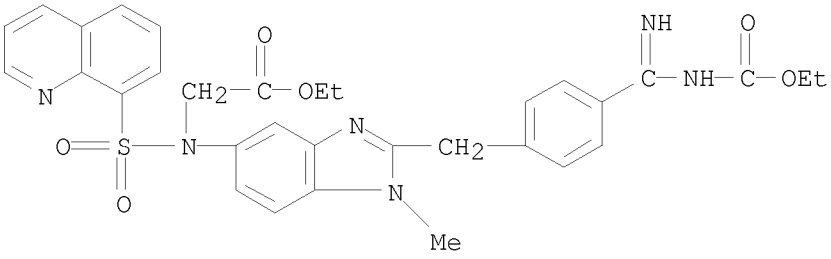
RN 236415-74-0 HCAPLUS
CN Glycine, N-[2-[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



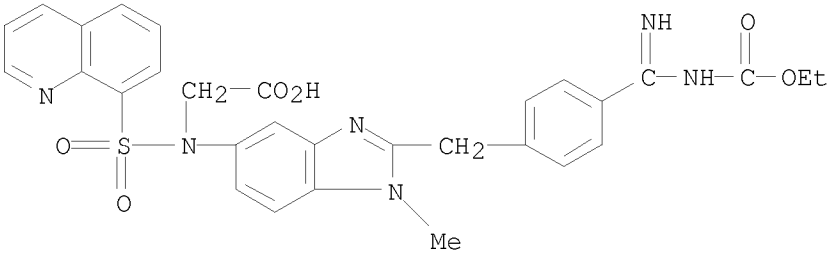
RN 236415-75-1 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(phenylmethoxy)carbonyl]amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



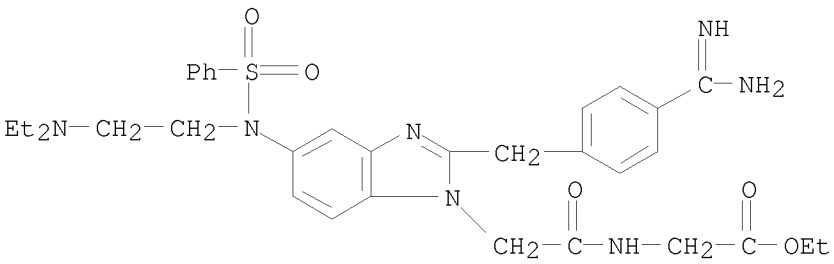
RN 236415-81-9 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 236415-83-1 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)

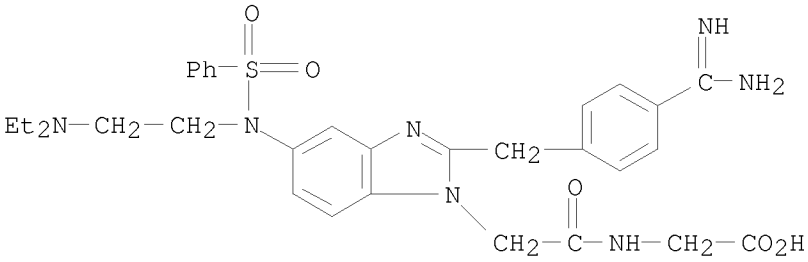


RN 236415-85-3 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



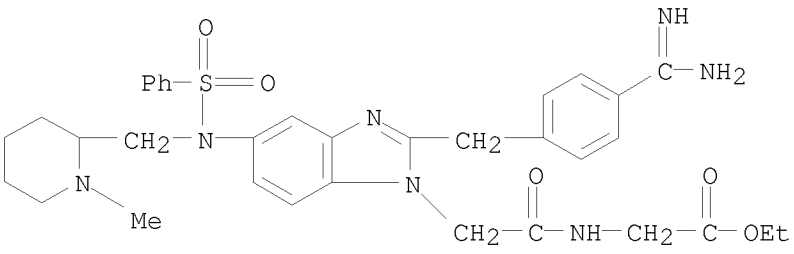
●2 HCl

RN 236415-88-6 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)



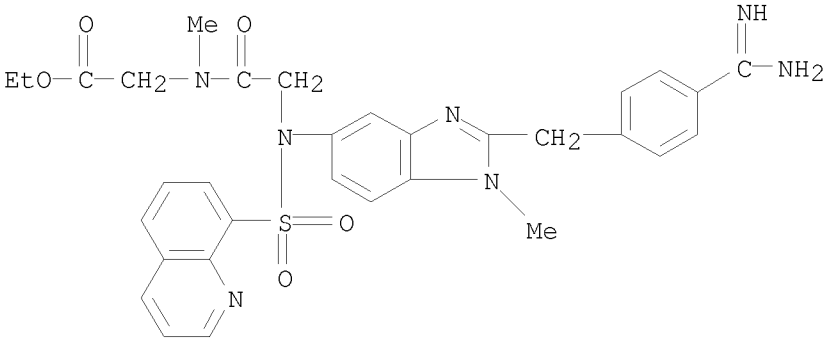
●2 HCl

RN 236415-94-4 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[(1-methyl-2-piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



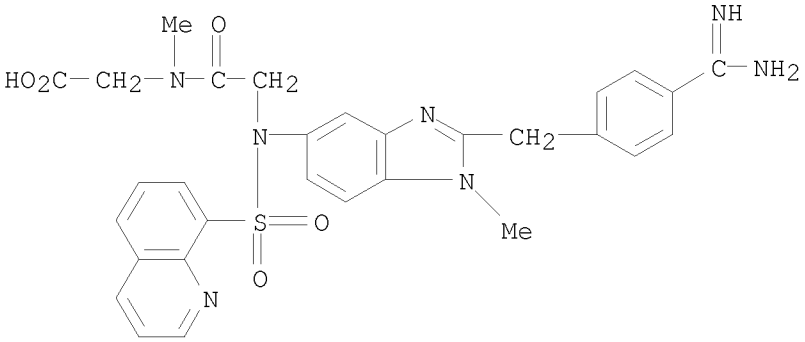
●2 HCl

RN 236415-95-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



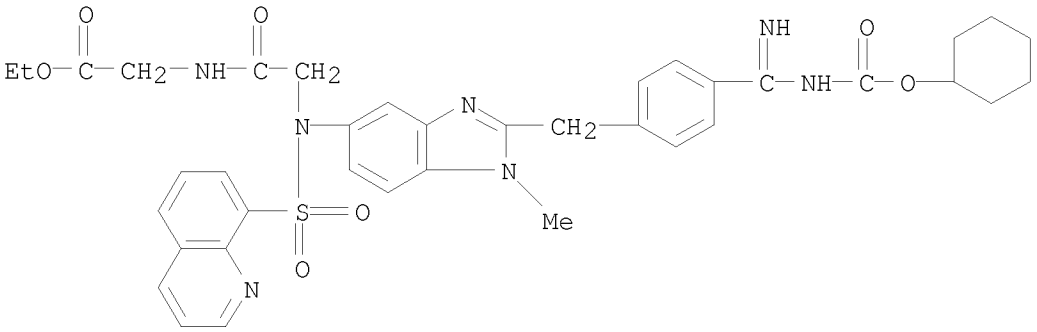
● HCl

RN 236415-97-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

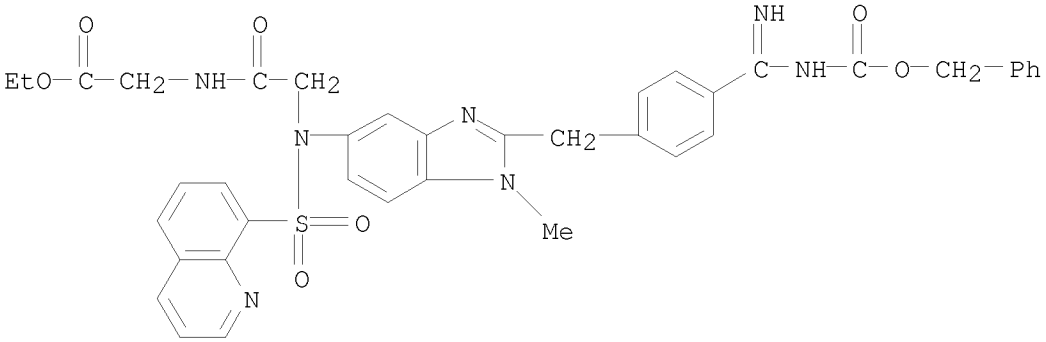


● HCl

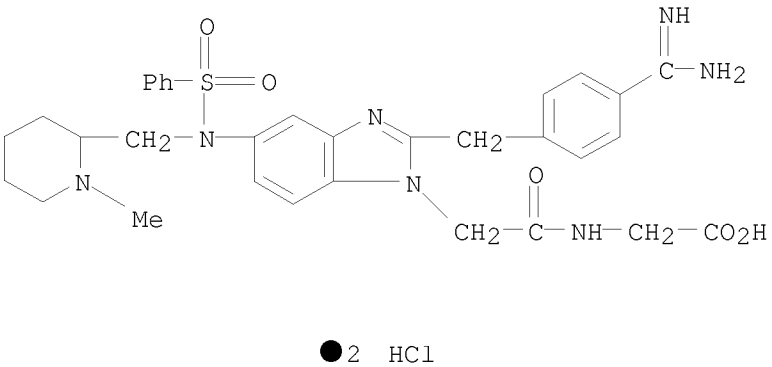
RN 236415-98-8 HCAPLUS
CN Glycine, N-[2-[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



RN 236415-99-9 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(phenylmethoxy)carbonyl]amino]methyl]phenyl]meth
yl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl
ester (CA INDEX NAME)



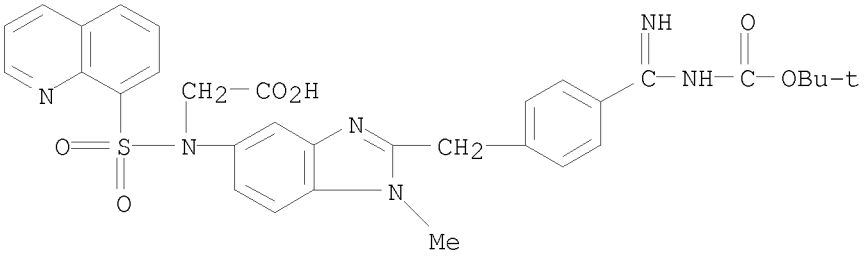
RN 236416-01-6 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[(1-methyl-2-
piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-,
dihydrochloride (9CI) (CA INDEX NAME)



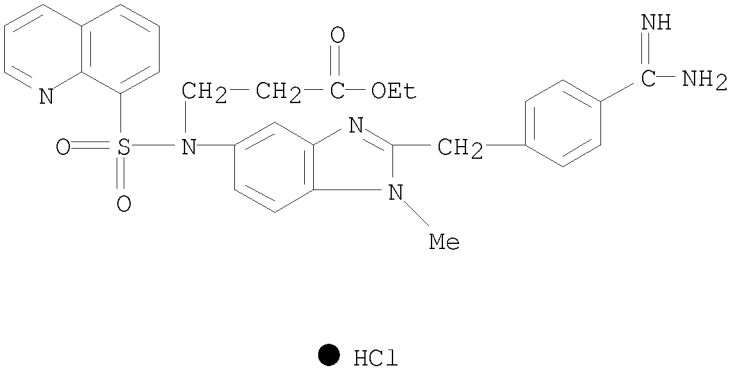
● 2 HCl

RN 236416-23-2 HCAPLUS
CN Glycine, N-[2-[[4-[[[(1,1-

dimethylethoxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)

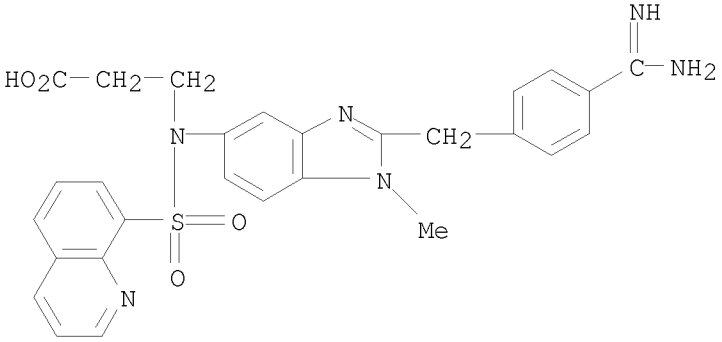


RN 236416-35-6 HCAPLUS
CN β-Alanine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



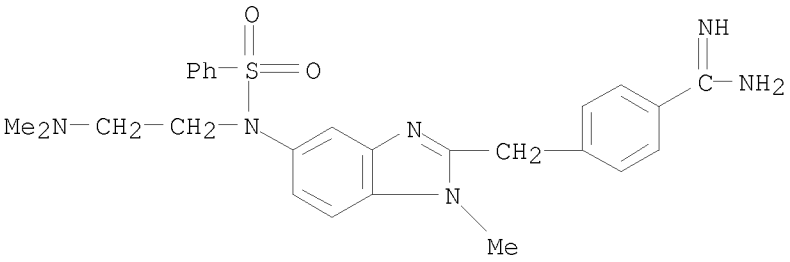
● HCl

RN 236416-36-7 HCAPLUS
CN β-Alanine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



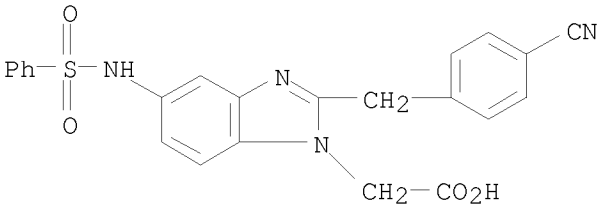
● HCl

RN 236416-46-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



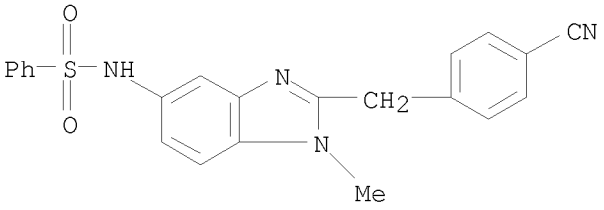
●2 HCl

IT 236418-60-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of five-membered benzo-condensed heterocycles as antithrombotics)
RN 236418-60-3 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]- (CA INDEX NAME)

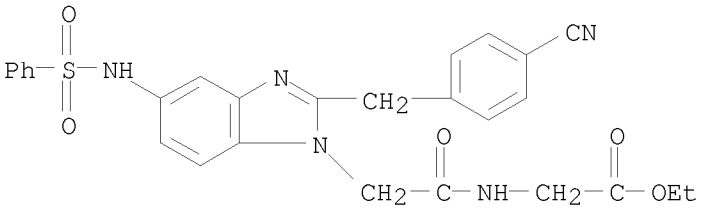


IT 236417-29-1P 236417-38-2P 236417-39-3P
236418-58-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of five-membered benzo-condensed heterocycles as antithrombotics)

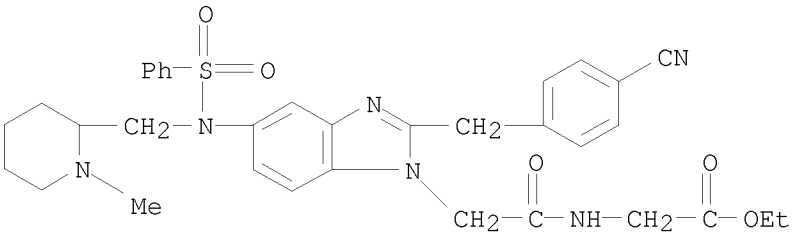
RN 236417-29-1 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



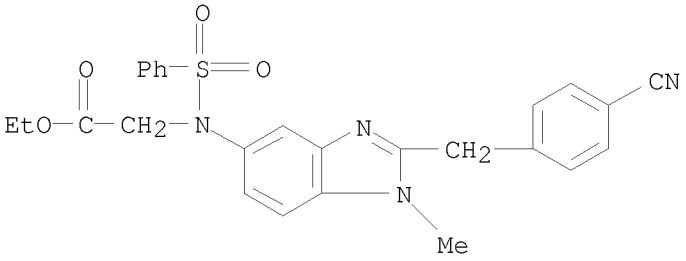
RN 236417-38-2 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 236417-39-3 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[[(1-methyl-2-piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 236418-58-9 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:505930 HCAPLUS
DOCUMENT NUMBER: 131:157761
TITLE: 5-Membered heterocyclic condensed benzo derivatives, their preparation, and their use as drugs
INVENTOR(S): Ries, Uwe; Hauel, Norbert; Mihm, Gerhard; Priepke, Henning; Binder, Klaus; Stassen, Jean Marie; Wienen, Wolfgang; Zimmermann, Rainer
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 94 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19804085	A1	19990805	DE 1998-19804085	19980203 <--
CA 2319494	A1	19990812	CA 1999-2319494	19990128 <--
WO 9940072	A1	19990812	WO 1999-EP537	19990128 <--

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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,

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     MX 2000005785        A     20010123    MX 2000-5785           20000612 <--
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OTHER SOURCE(S):         MARPAT 131:157761
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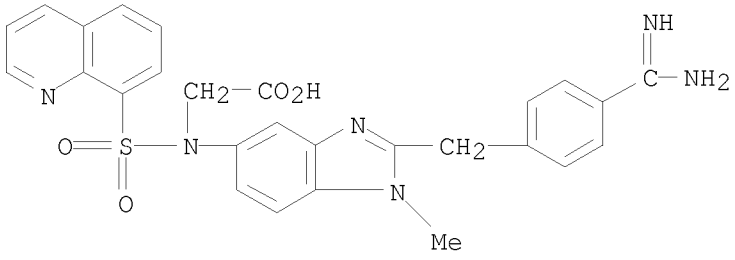
AB Approx. 300 antithrombotic title compds. such as 4-[5-[N-(8-quinolylsulfonyl)-N-(carboxymethyl)amino]-1-methyl-1H-benzimidazol-2-ylmethyl]benzamidine hydrochloride (I), 4-[5-[N-(benzenesulfonyl)-N-[2-(dimethylamino)ethyl]amino]-1-benzyl-1H-benzimidazol-2-ylmethyl]benzamidine dihydrochloride, 4-[5-[N-(3-carboxypropionyl)-N-(cyclopentyl)amino]-1-methyl-1H-benzimidazol-2-ylmethyl]benzamidine hydrochloride (II), and 4-[5-[N-(8-quinolylsulfonyl)-N-(carboxymethyl)amino]-1-methyl-1H-benzothiazol-2-ylmethyl]benzamidine hydrochloride were prepared by standard methods. The ED200 in μM for I was 0.92 and for II was 0.82. Formulations for the antithrombotics were given.

IT 237750-48-0P 237750-49-1P 237750-50-4P
237750-51-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antithrombotic activity of benzimidazolylmethylbenzamidines)

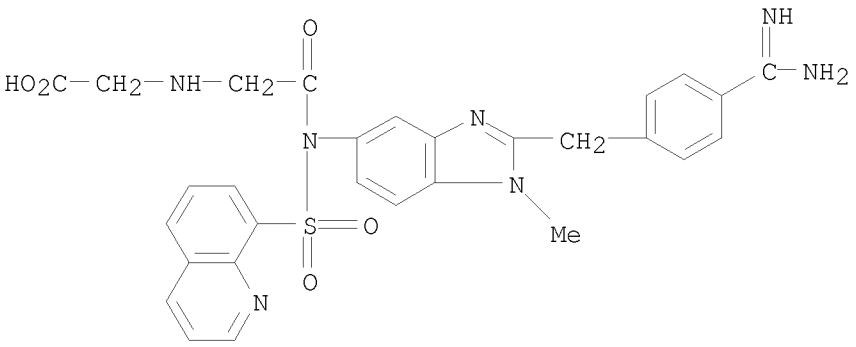
RN 237750-48-0 HCAPLUS

CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)

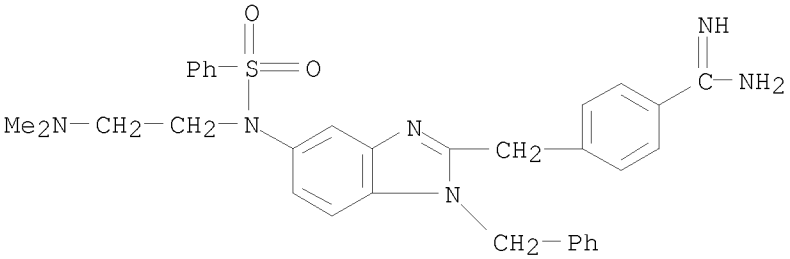


RN 237750-49-1 HCAPLUS

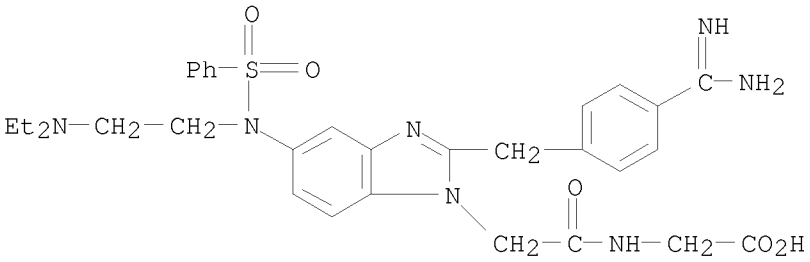
CN Glycine, N-[2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]- (CA INDEX NAME)



RN 237750-50-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-(phenylmethyl)-1H-benzimidazol-2-yl]methyl]- (CA INDEX NAME)



RN 237750-51-5 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]- (9CI) (CA INDEX NAME)



IT 236414-82-7 236418-60-3 237750-76-4
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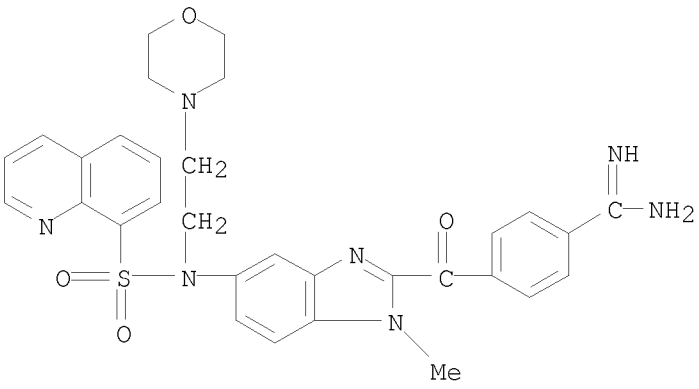
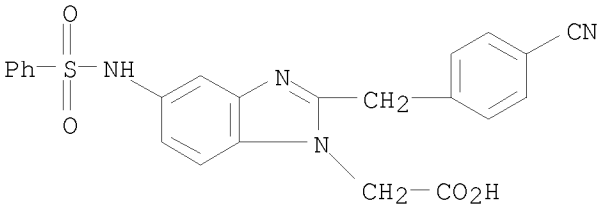
237752-26-0 237752-27-1 237752-28-2
237752-29-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and antithrombotic activity of
benzimidazolylmethylbenzamidines)

RN 236414-82-7 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)ethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]carbonyl]-, hydrochloride (1:2) (CA INDEX NAME)

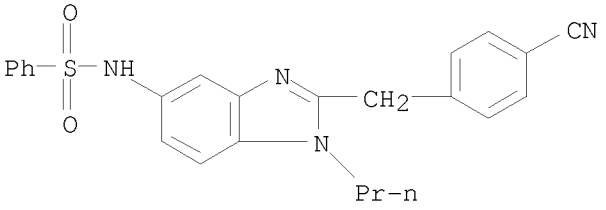


●2 HCl

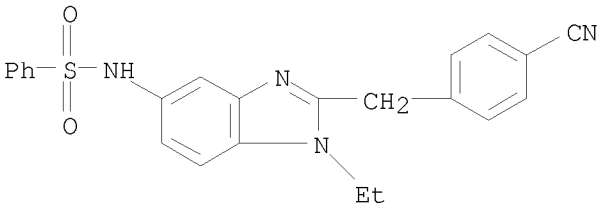
RN 236418-60-3 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]- (CA INDEX NAME)



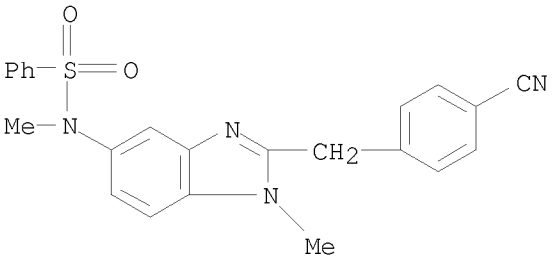
RN 237750-76-4 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-propyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



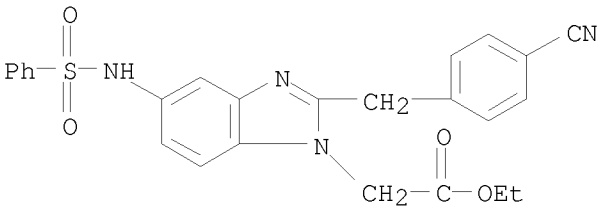
RN 237750-78-6 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-ethyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



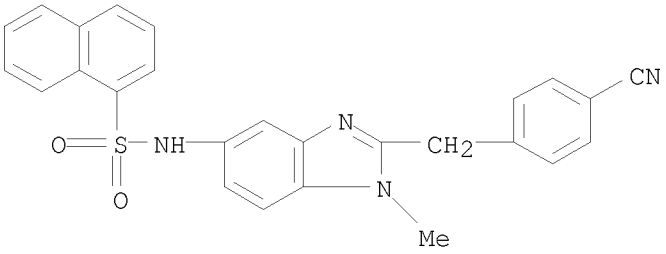
RN 237750-79-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-methyl- (CA INDEX NAME)



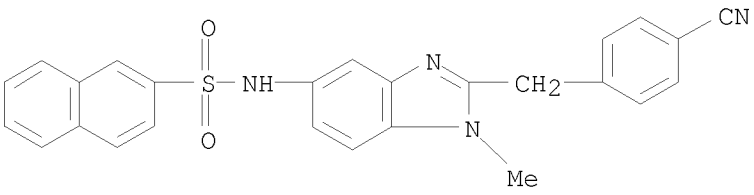
RN 237750-80-0 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



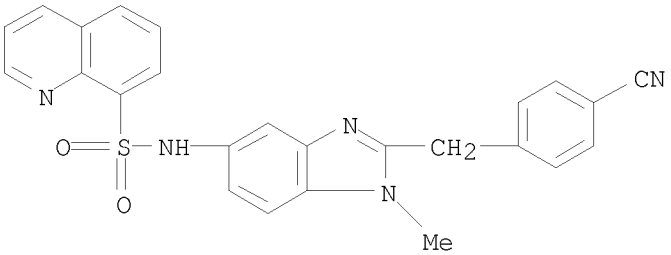
RN 237750-82-2 HCAPLUS
CN 1-Naphthalenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



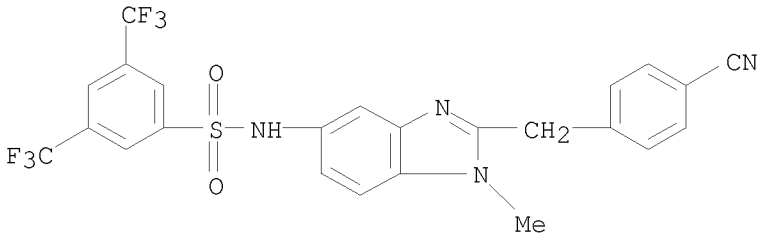
RN 237750-83-3 HCAPLUS
CN 2-Naphthalenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



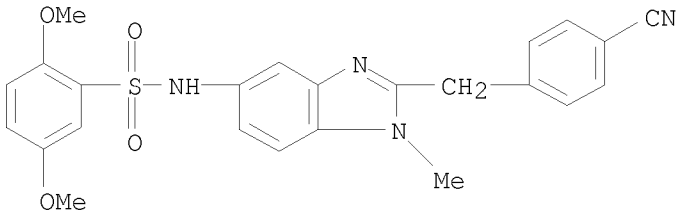
RN 237750-85-5 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



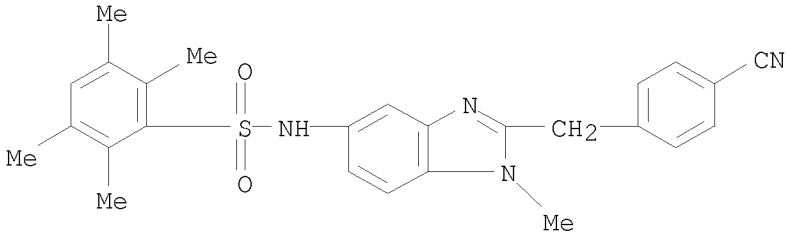
RN 237750-86-6 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-3,5-bis(trifluoromethyl)- (CA INDEX NAME)



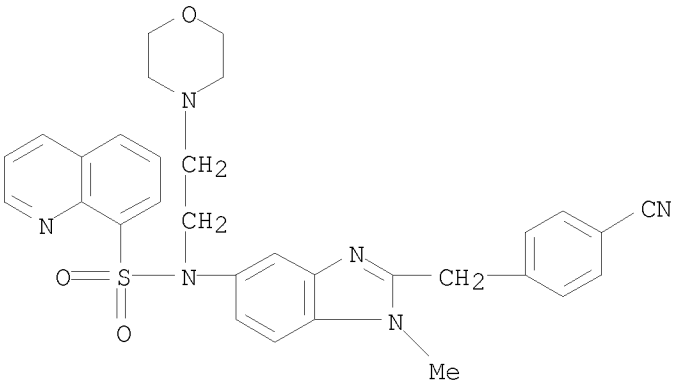
RN 237750-87-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-2,5-dimethoxy- (CA INDEX NAME)



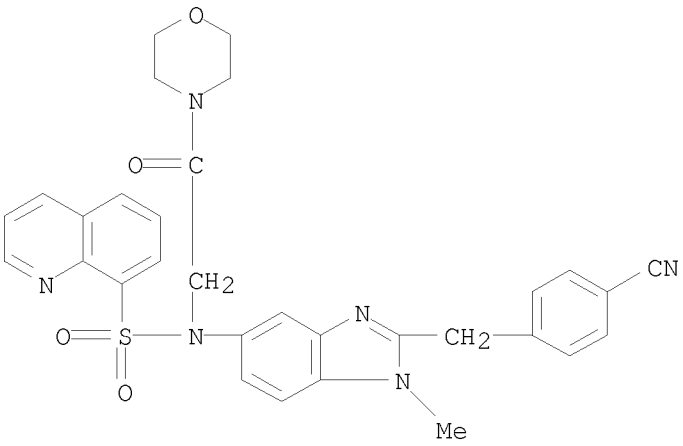
RN 237750-88-8 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-2,3,5,6-tetramethyl- (CA INDEX NAME)



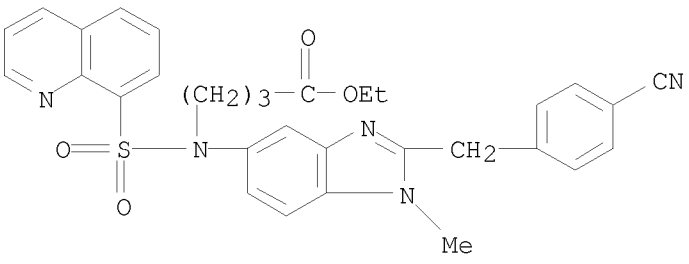
RN 237750-96-8 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(4-morpholinyl)ethyl]- (CA INDEX NAME)



RN 237750-97-9 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(4-morpholinyl)-2-oxoethyl]- (CA INDEX NAME)

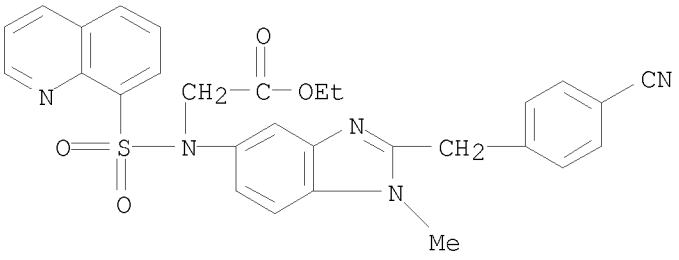


RN 237750-98-0 HCAPLUS
CN Butanoic acid, 4-[[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)

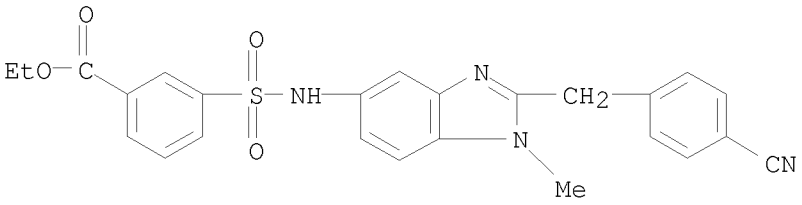


RN 237750-99-1 HCAPLUS

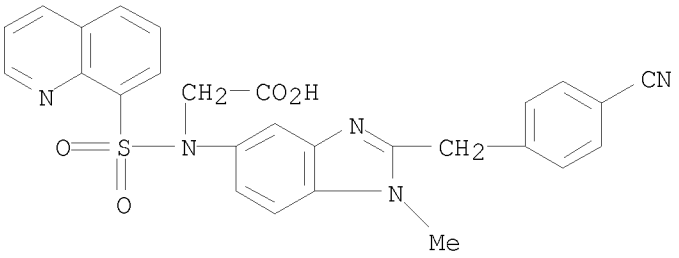
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



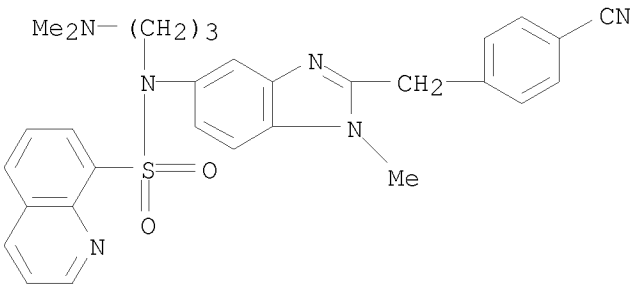
RN 237751-01-8 HCAPLUS
CN Benzoic acid, 3-[[[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]-, ethyl ester (CA INDEX NAME)



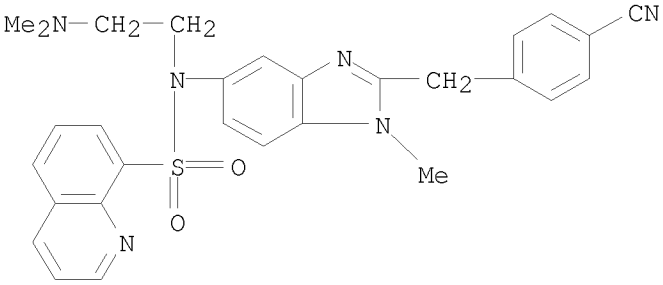
RN 237751-06-3 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)



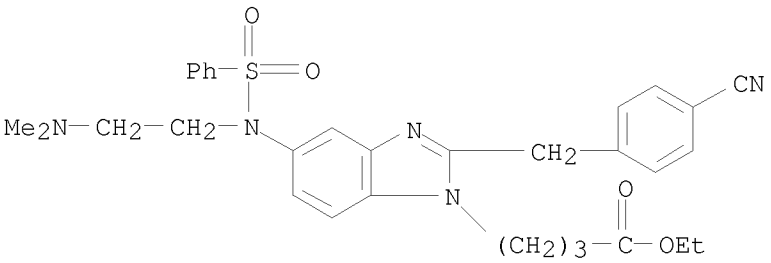
RN 237751-07-4 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[3-(dimethylamino)propyl]- (CA INDEX NAME)



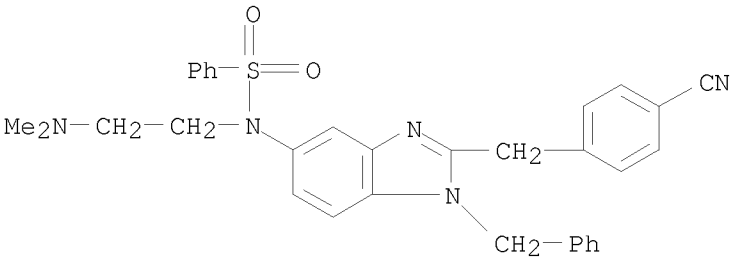
RN 237751-08-5 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(dimethylamino)ethyl]- (CA INDEX NAME)



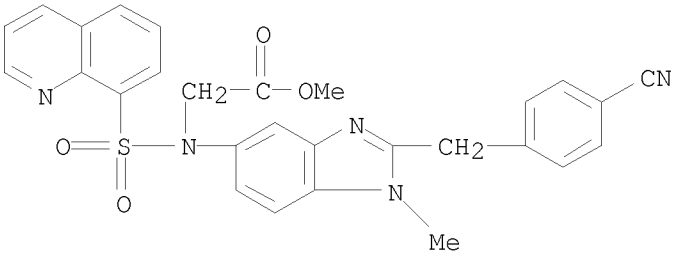
RN 237751-09-6 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



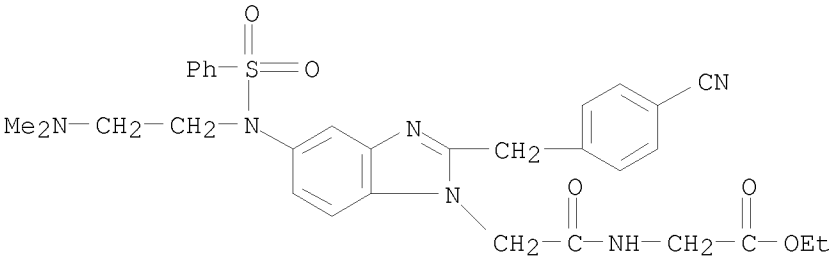
RN 237751-10-9 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-[2-(dimethylamino)ethyl]- (CA INDEX NAME)



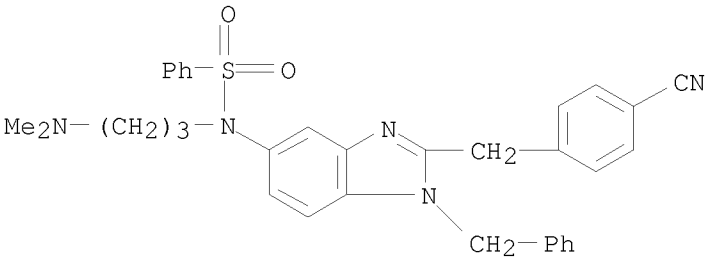
RN 237751-12-1 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)



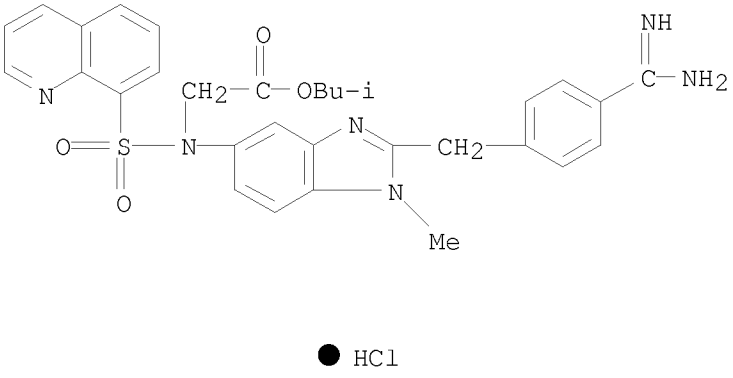
RN 237751-13-2 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 237751-14-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-[3-(dimethylamino)propyl]- (CA INDEX NAME)

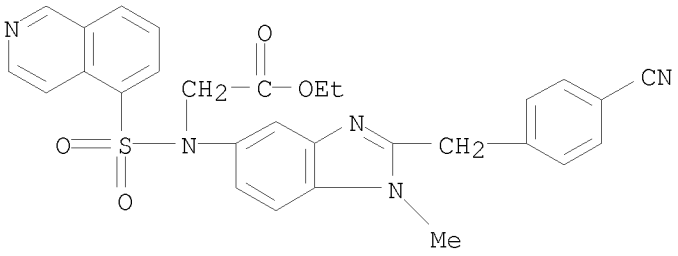


RN 237751-15-4 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, 2-methylpropyl ester, monohydrochloride (9CI) (CA INDEX NAME)

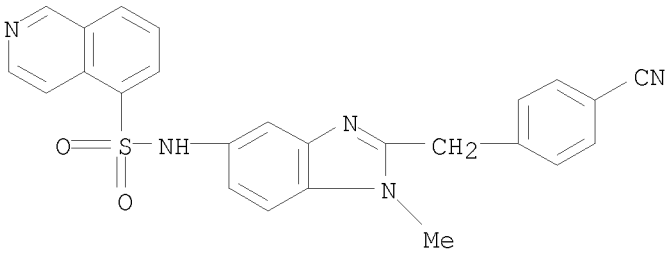


● HCl

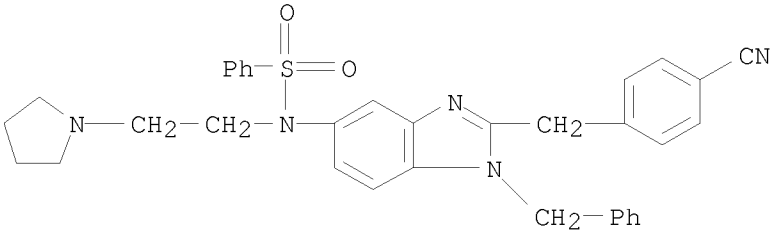
RN 237751-16-5 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(5-isoquinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



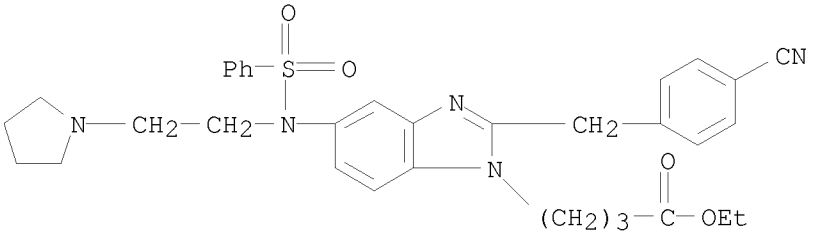
RN 237751-17-6 HCAPLUS
CN 5-Isoquinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



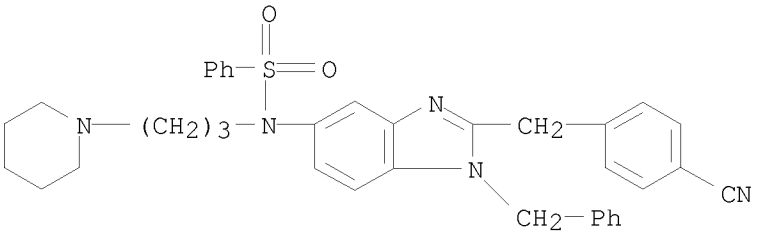
RN 237751-18-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-[2-(1-pyrrolidinyl)ethyl]- (CA INDEX NAME)



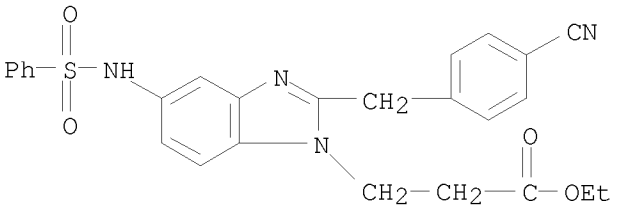
RN 237751-19-8 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-, ethyl ester (CA INDEX NAME)



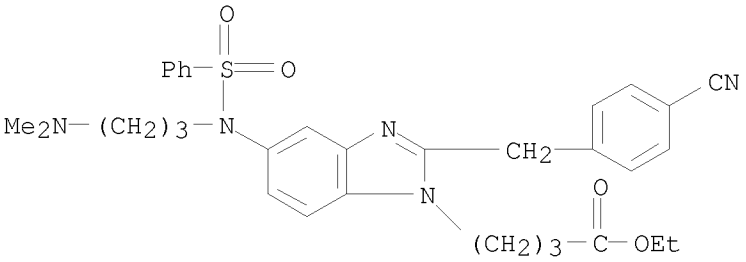
RN 237751-20-1 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-[3-(1-piperidinyl)propyl]- (CA INDEX NAME)



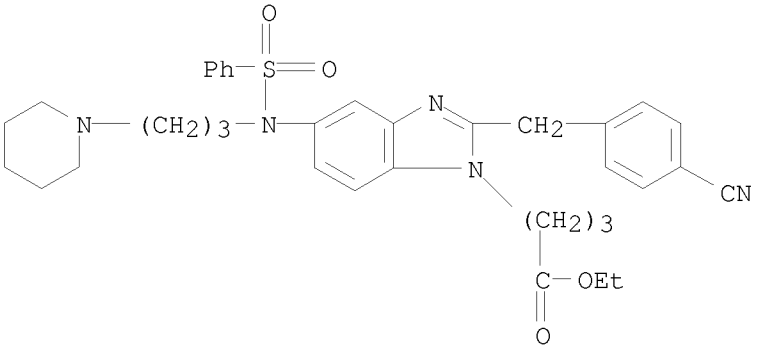
RN 237751-21-2 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



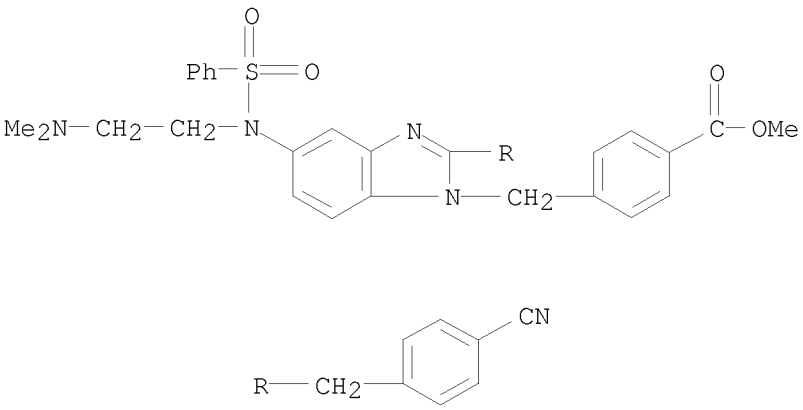
RN 237751-22-3 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



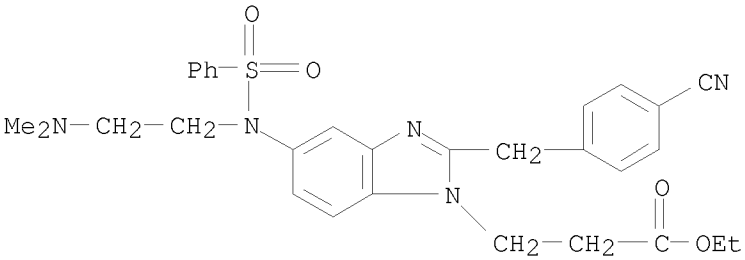
RN 237751-23-4 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-, ethyl ester (CA INDEX NAME)



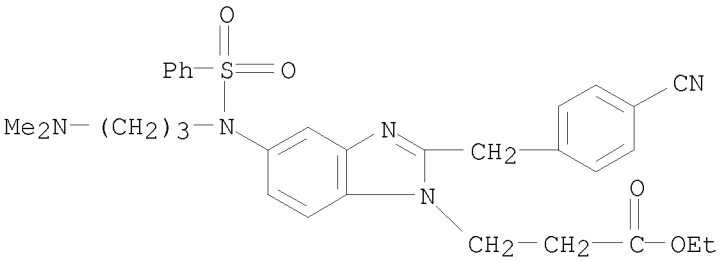
RN 237751-24-5 HCAPLUS
CN Benzoic acid, 4-[[2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]methyl]-, methyl ester (CA INDEX NAME)



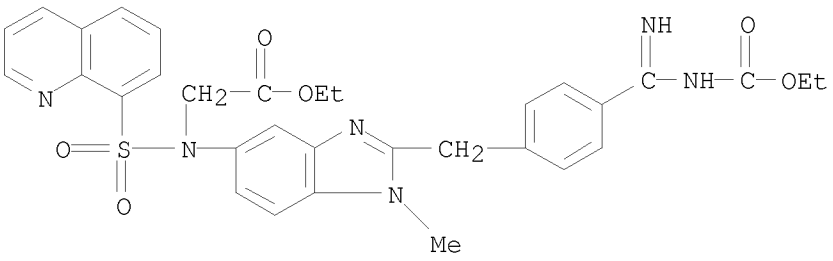
RN 237751-25-6 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



RN 237751-26-7 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[(4-cyanophenyl)methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)

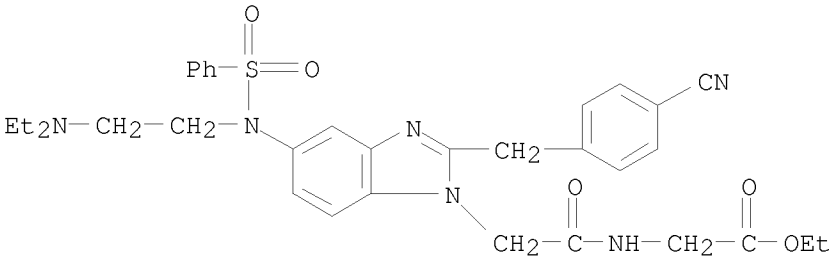


RN 237751-36-9 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

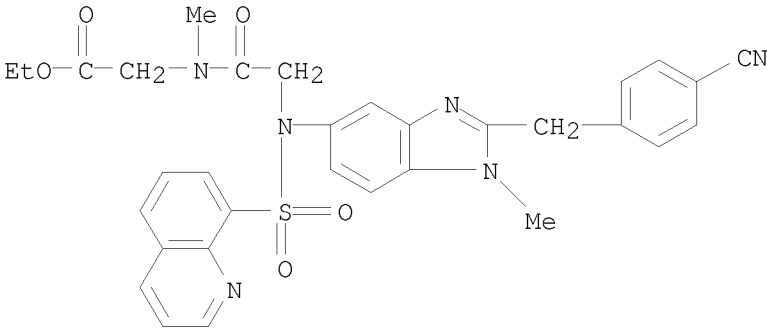


● HCl

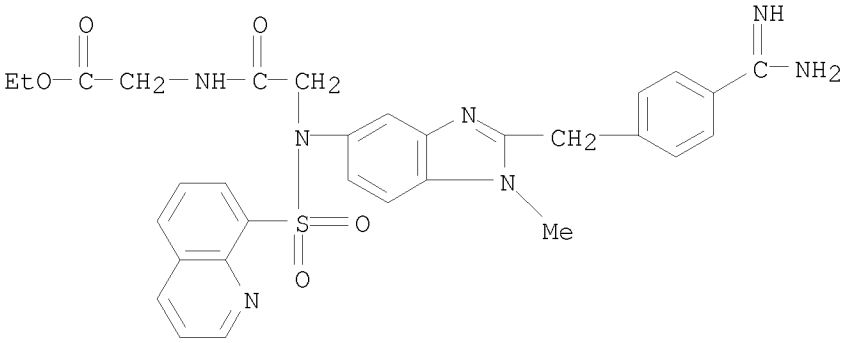
RN 237751-37-0 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 237751-41-6 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, ethyl ester (CA INDEX NAME)

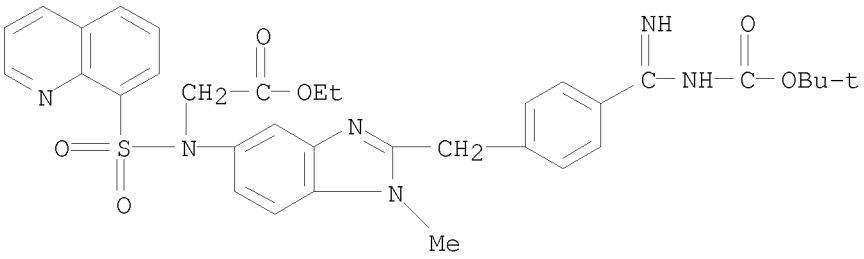


RN 237751-43-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

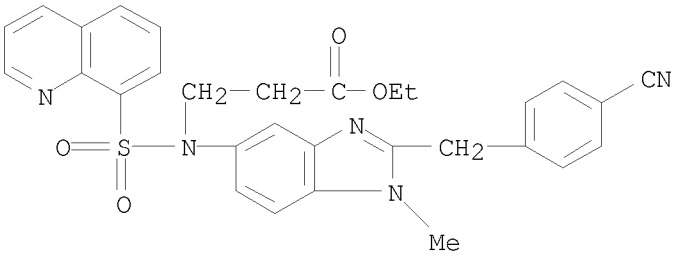


● HCl

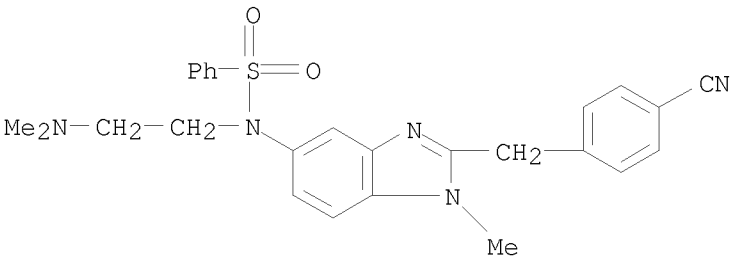
RN 237751-52-9 HCAPLUS
CN Glycine, N-[2-[[4-[[[(1,1-dimethylethoxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



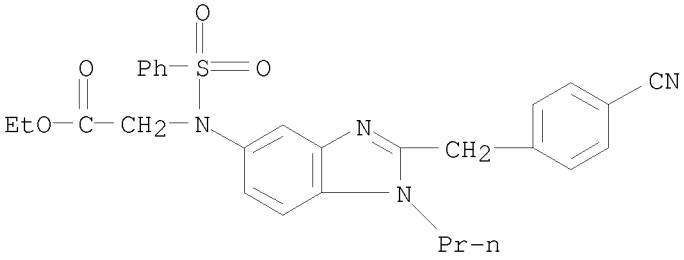
RN 237751-62-1 HCAPLUS
CN β-Alanine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



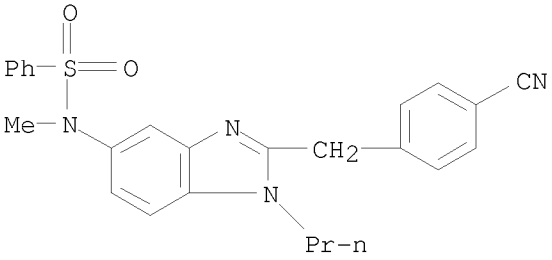
RN 237751-64-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(dimethylamino)ethyl]- (CA INDEX NAME)



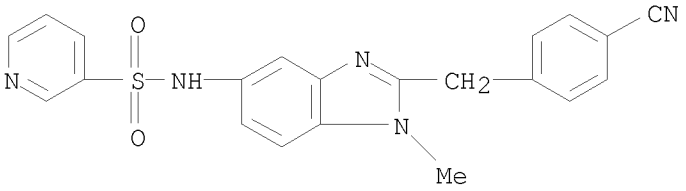
RN 237751-94-9 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-propyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



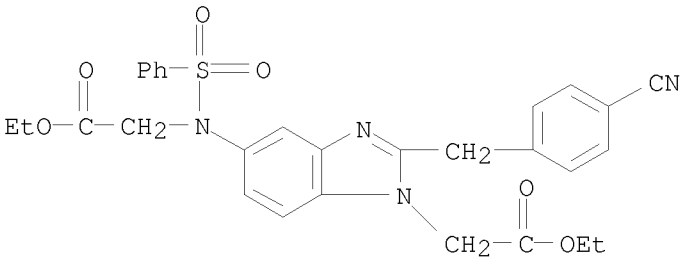
RN 237751-95-0 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-propyl-1H-benzimidazol-5-yl]-N-methyl- (CA INDEX NAME)



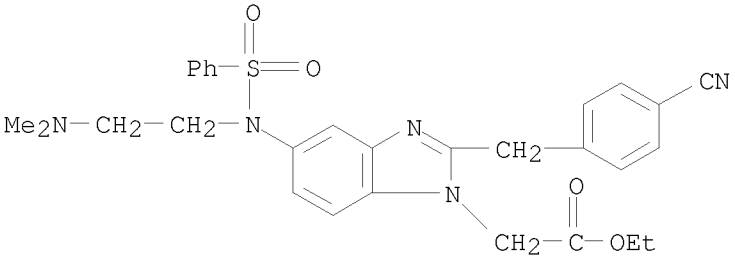
RN 237751-99-4 HCAPLUS
CN 3-Pyridinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



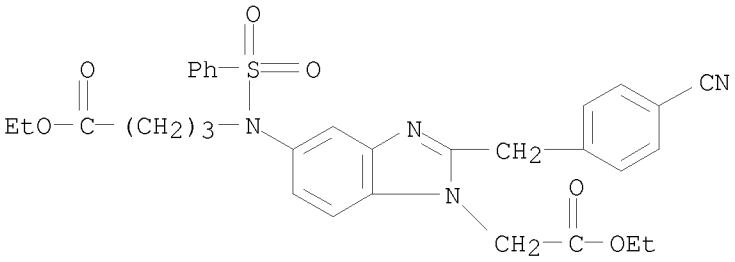
RN 237752-00-0 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



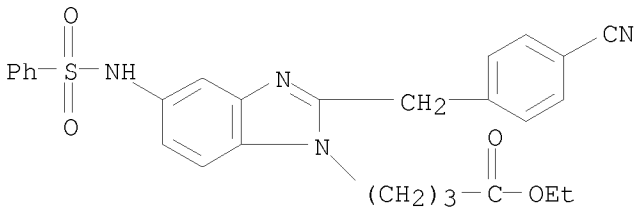
RN 237752-01-1 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



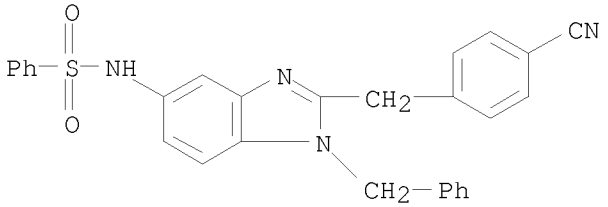
RN 237752-07-7 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[(4-ethoxy-4-oxobutyl)(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



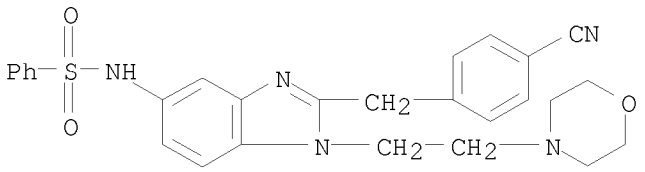
RN 237752-09-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



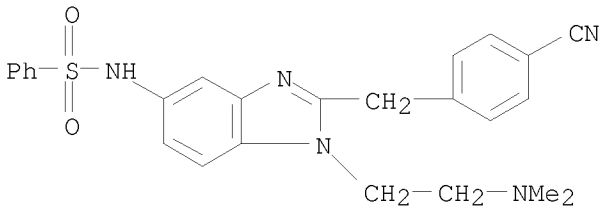
RN 237752-10-2 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 237752-11-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]- (CA INDEX NAME)

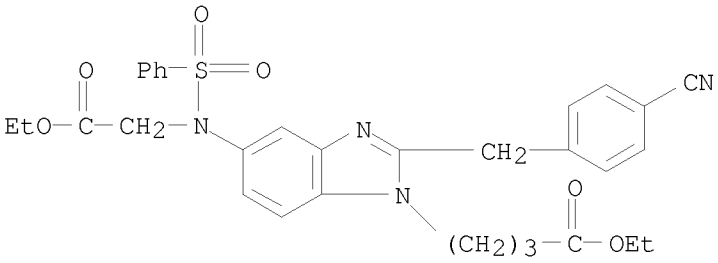


RN 237752-12-4 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]- (CA INDEX NAME)

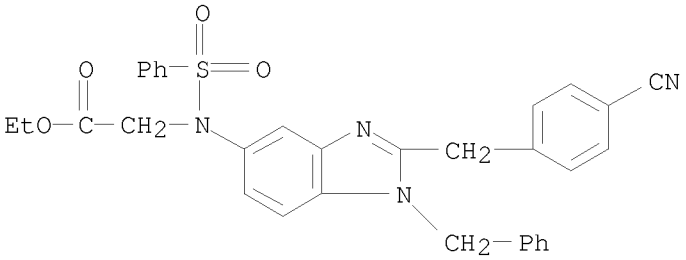


RN 237752-13-5 HCAPLUS

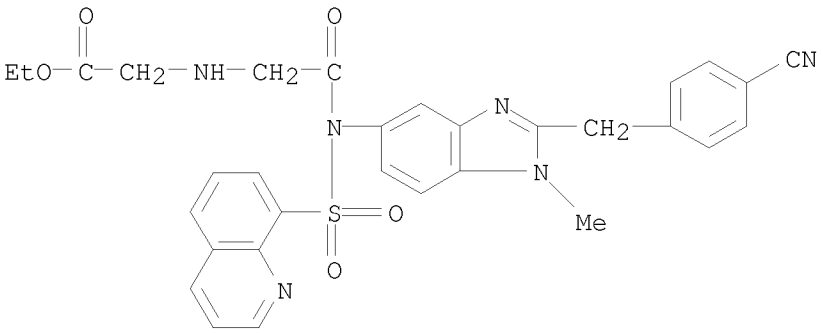
CN 1H-Benzimidazole-1-butanoic acid, 2-[(4-cyanophenyl)methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



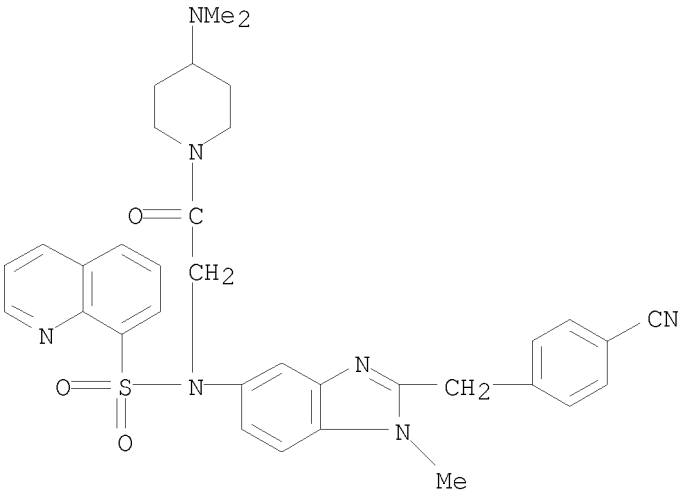
RN 237752-14-6 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



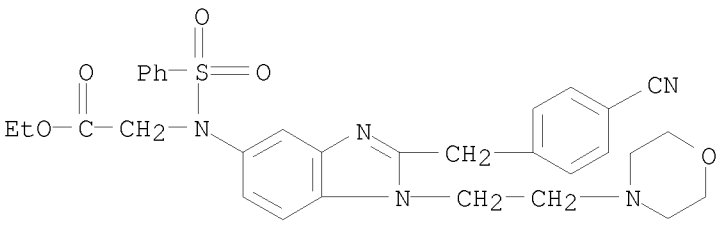
RN 237752-16-8 HCAPLUS
CN Glycine, N-[2-[[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]-, ethyl ester (CA INDEX NAME)



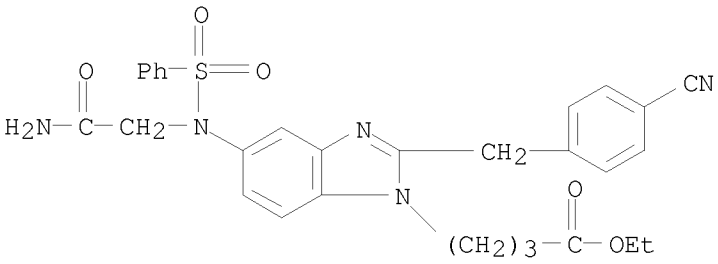
RN 237752-17-9 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-[4-(dimethylamino)-1-piperidinyl]-2-oxoethyl]- (CA INDEX NAME)



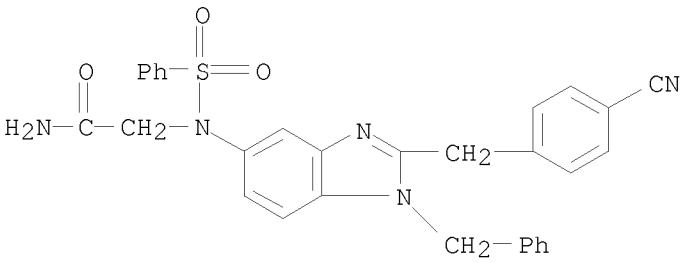
RN 237752-18-0 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



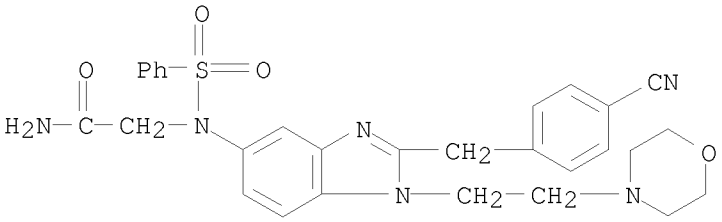
RN 237752-19-1 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 5-[(2-amino-2-oxoethyl)(phenylsulfonyl)amino]-2-[(4-cyanophenyl)methyl]-, ethyl ester (CA INDEX NAME)



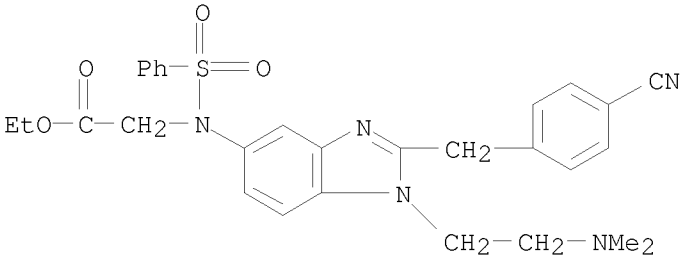
RN 237752-20-4 HCAPLUS
CN Acetamide, 2-[[2-[(4-cyanophenyl)methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl](phenylsulfonyl)amino]- (CA INDEX NAME)



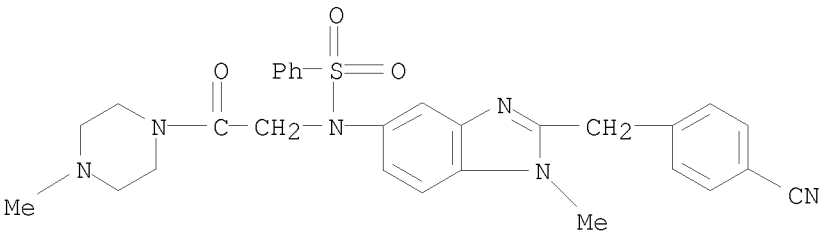
RN 237752-21-5 HCAPLUS
CN Acetamide, 2-[[2-[(4-cyanophenyl)methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]- (CA INDEX NAME)



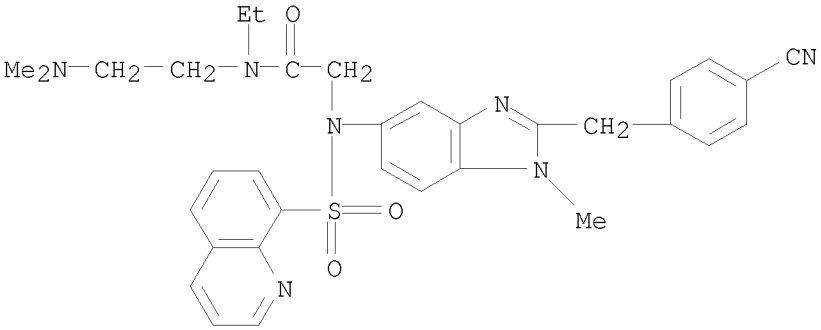
RN 237752-22-6 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



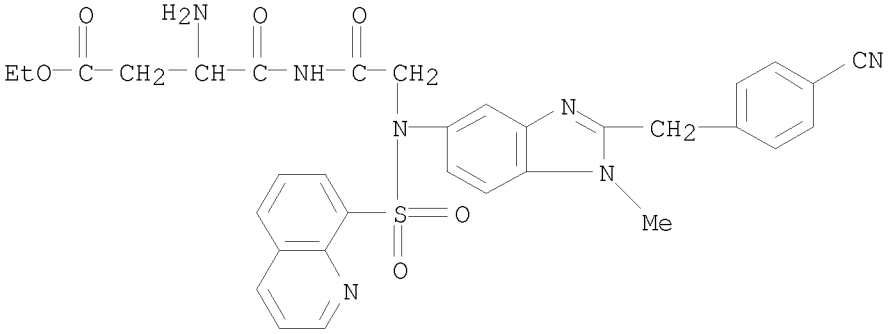
RN 237752-23-7 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-(4-methyl-1-piperazinyl)-2-oxoethyl]- (CA INDEX NAME)



RN 237752-24-8 HCAPLUS
CN Acetamide, 2-[[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-N-[2-(dimethylamino)ethyl]-N-ethyl- (CA INDEX NAME)

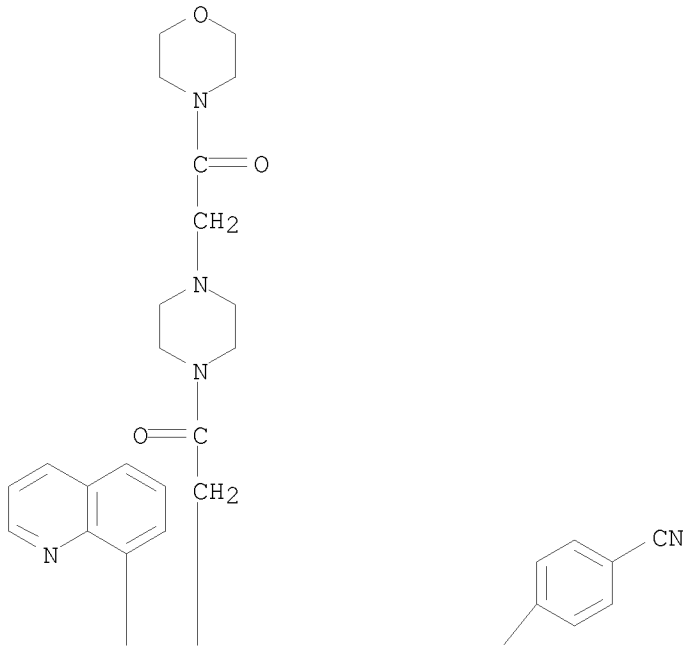


RN 237752-25-9 HCAPLUS
CN Butanoic acid, 3-amino-4-[[[[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]acetyl]amino]-4-oxo-, ethyl ester (9CI) (CA INDEX NAME)

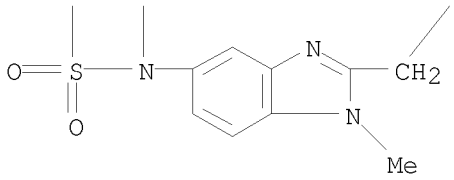


RN 237752-26-0 HCAPLUS
CN 8-Quinolinesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-[2-[4-[2-(4-morpholinyl)-2-oxoethyl]-1-piperazinyl]-2-oxoethyl]- (CA INDEX NAME)

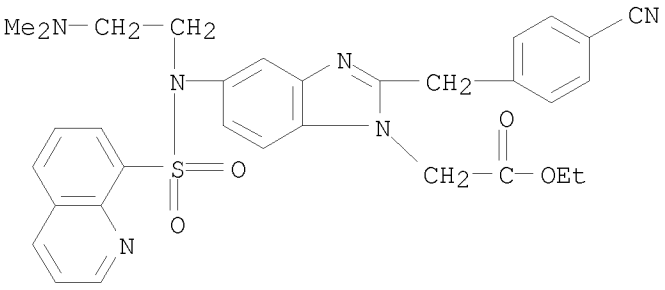
PAGE 1-A



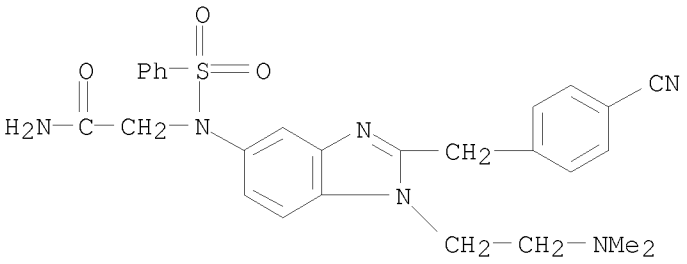
PAGE 2-A



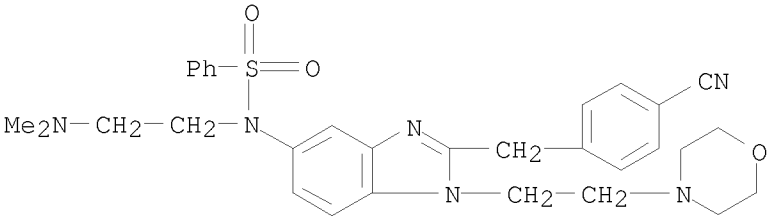
RN 237752-27-1 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[(4-cyanophenyl)methyl]-5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-, ethyl ester (CA INDEX NAME)



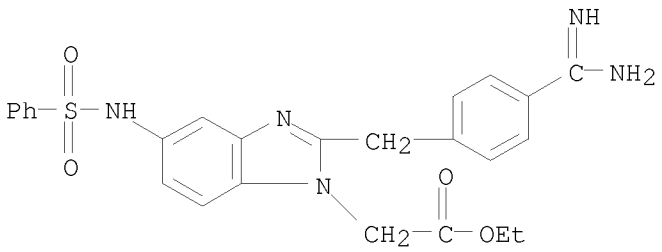
RN 237752-28-2 HCAPLUS
CN Acetamide, 2-[[2-[(4-cyanophenyl)methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]- (CA INDEX NAME)



RN 237752-29-3 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-[2-(dimethylamino)ethyl]- (CA INDEX NAME)

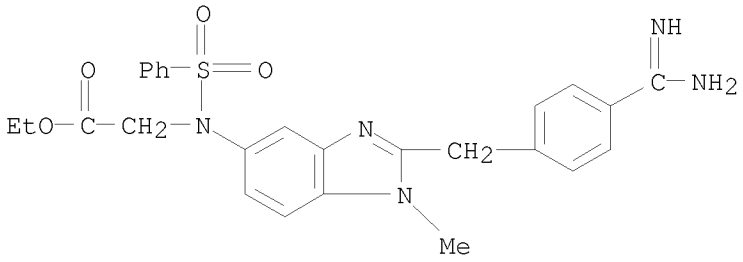


IT 236414-44-1P 236414-46-3P 236414-71-4P
236414-72-5P 236414-89-4P 236415-12-6P
236415-16-0P 236415-22-8P 236415-28-4P
236415-39-7P 236415-43-3P 236415-48-8P
236415-56-8P 236415-57-9P 236415-62-6P
236415-63-7P 236415-85-3P 236415-94-4P
236415-95-5P 236416-35-6P 236417-29-1P
236417-38-2P 236417-39-3P 236418-58-9P
237750-36-6P 237750-40-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and antithrombotic activity of benzimidazolylmethylbenzamidines)
RN 236414-44-1 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



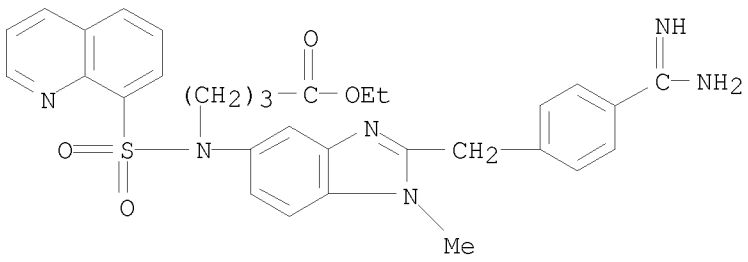
● HCl

RN 236414-46-3 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



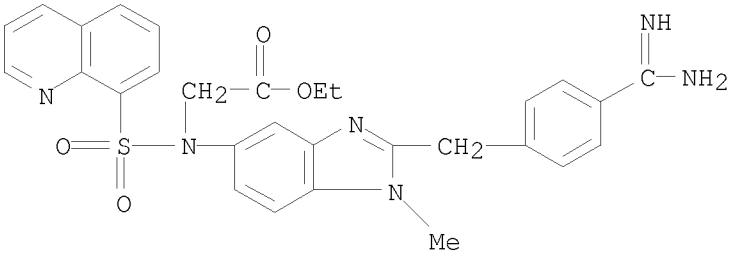
● HCl

RN 236414-71-4 HCAPLUS
CN Butanoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



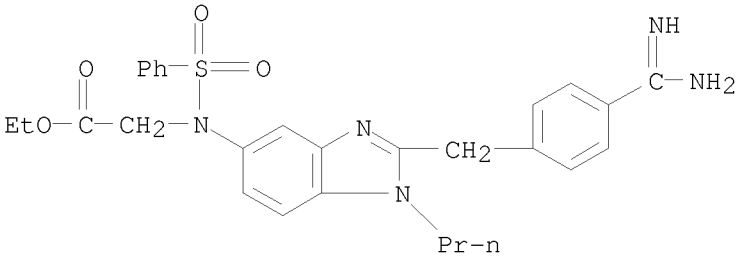
● HCl

RN 236414-72-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



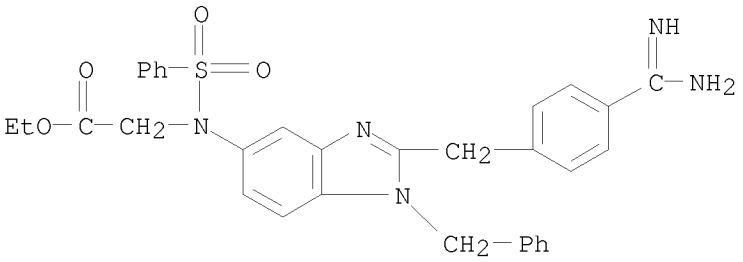
● HCl

RN 236414-89-4 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-propyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



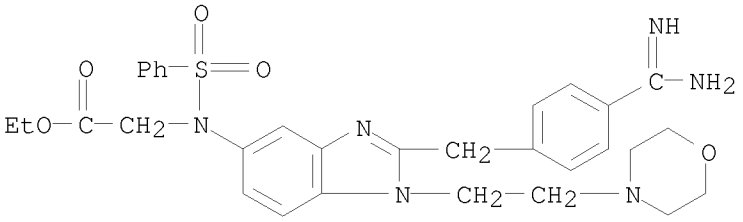
● HCl

RN 236415-12-6 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



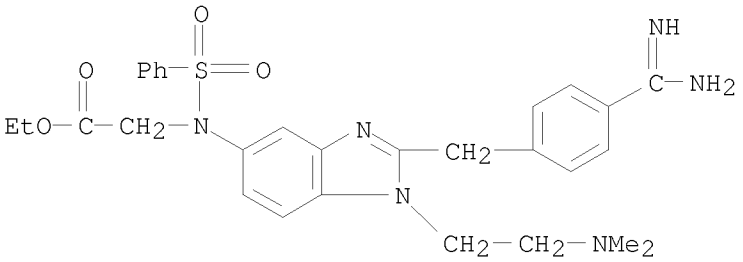
● HCl

RN 236415-16-0 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



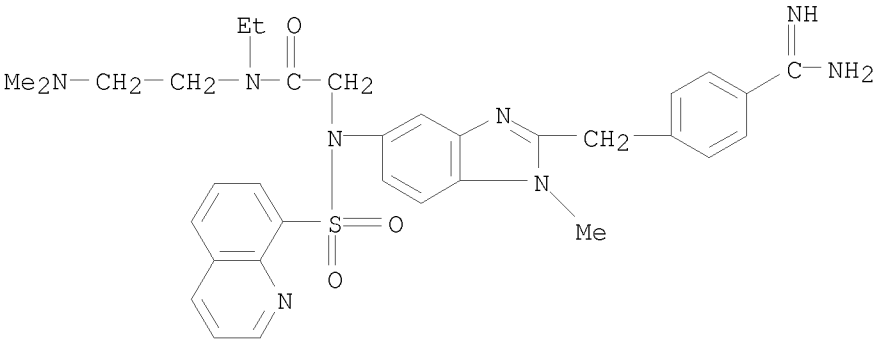
●2 HCl

RN 236415-22-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



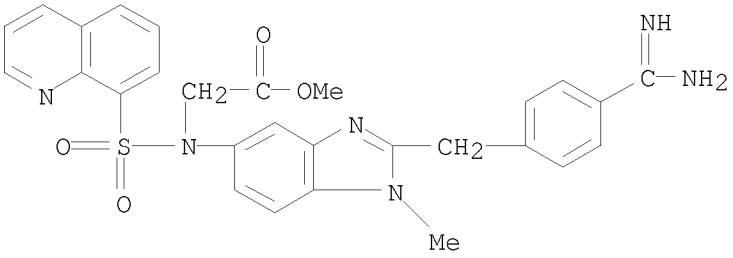
●2 HCl

RN 236415-28-4 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-N-[2-(dimethylamino)ethyl]-N-ethyl-, hydrochloride (1:2) (CA INDEX NAME)



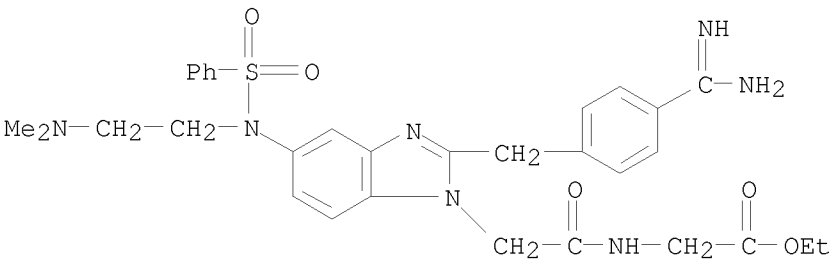
● 2 HCl

RN 236415-39-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)



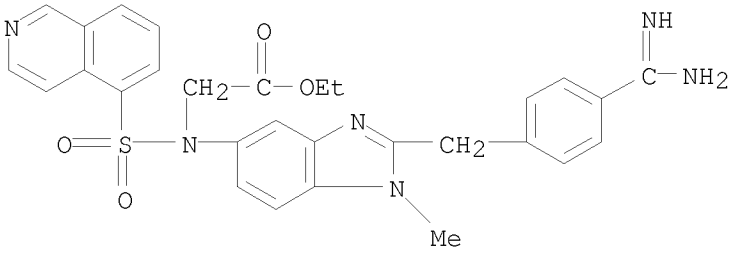
● HCl

RN 236415-43-3 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



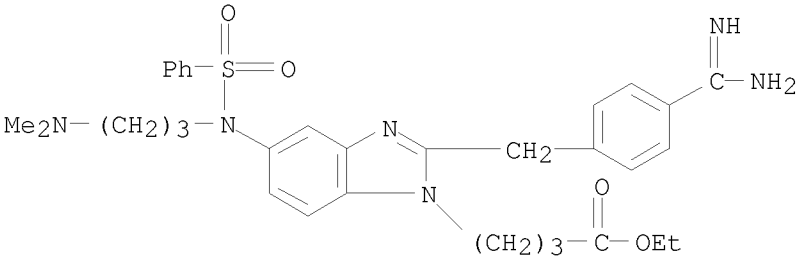
●2 HCl

RN 236415-48-8 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(5-isoquinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



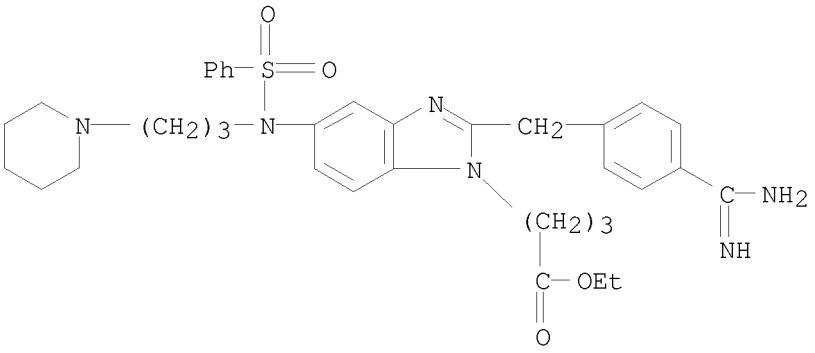
● HCl

RN 236415-56-8 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



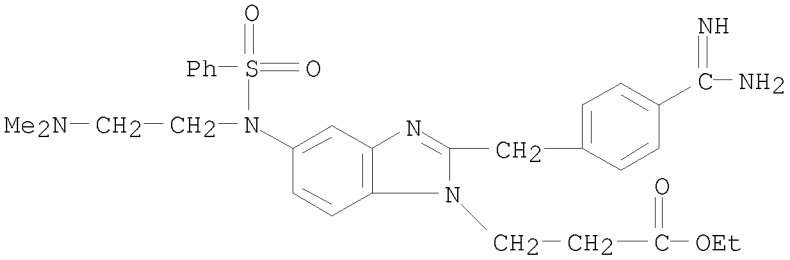
●2 HCl

RN 236415-57-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



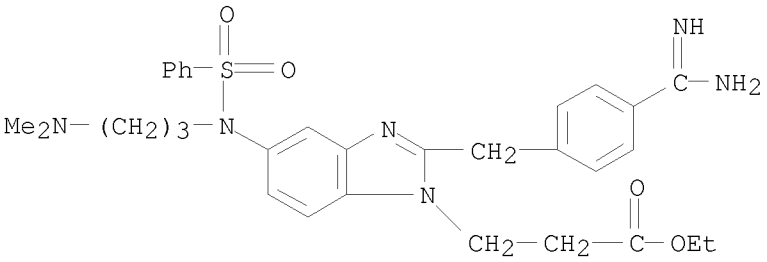
●2 HCl

RN 236415-62-6 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



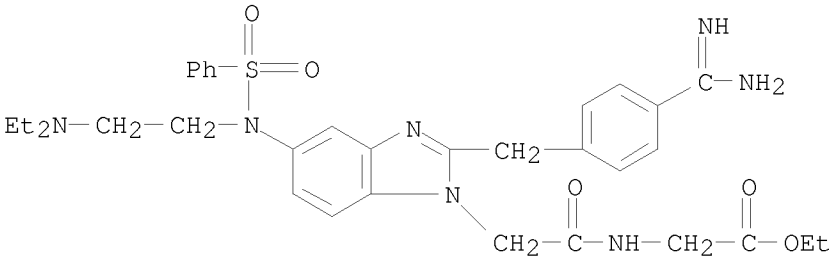
●2 HCl

RN 236415-63-7 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



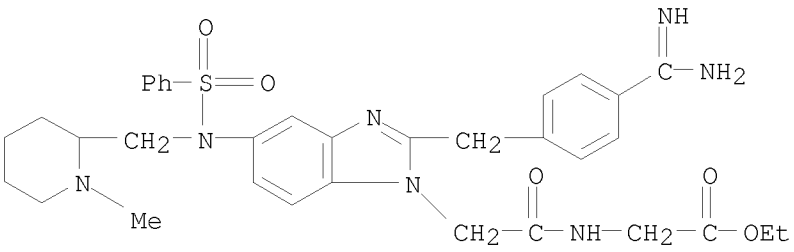
● 2 HCl

RN 236415-85-3 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



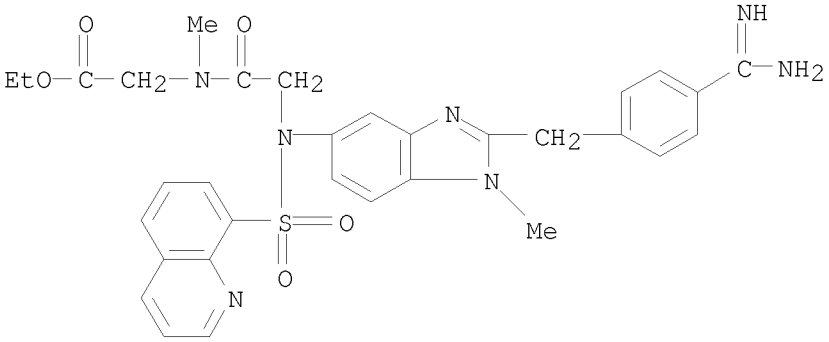
● 2 HCl

RN 236415-94-4 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[(1-methyl-2-piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



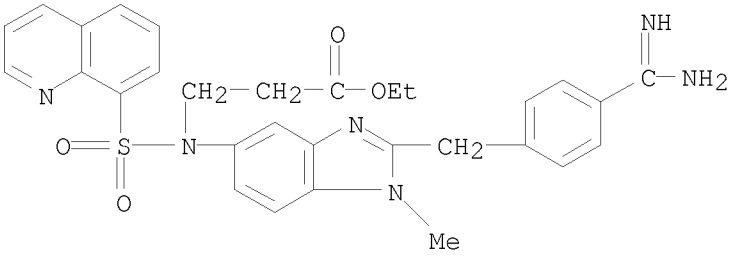
● 2 HCl

RN 236415-95-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



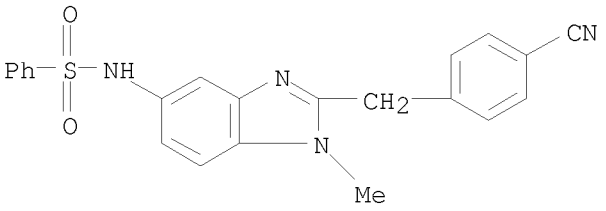
● HCl

RN 236416-35-6 HCAPLUS
CN β-Alanine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

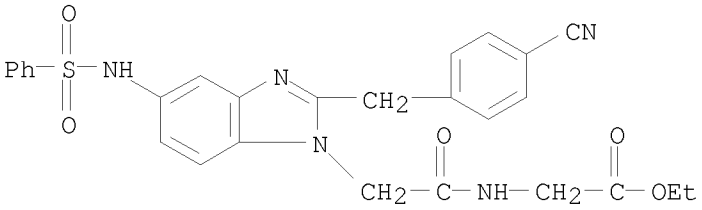


● HCl

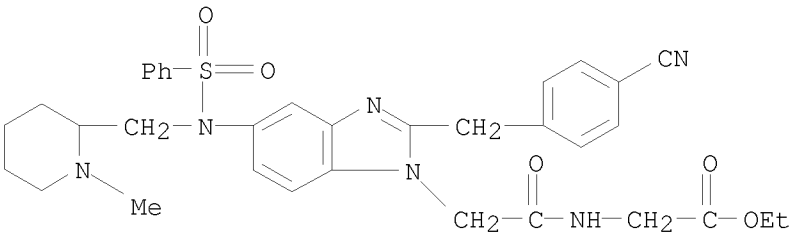
RN 236417-29-1 HCAPLUS
CN Benzenesulfonamide, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]- (CA INDEX NAME)



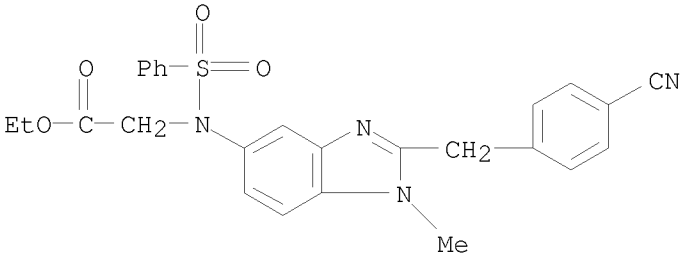
RN 236417-38-2 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 236417-39-3 HCAPLUS
CN Glycine, N-[[2-[(4-cyanophenyl)methyl]-5-[[(1-methyl-2-piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, ethyl ester (9CI) (CA INDEX NAME)

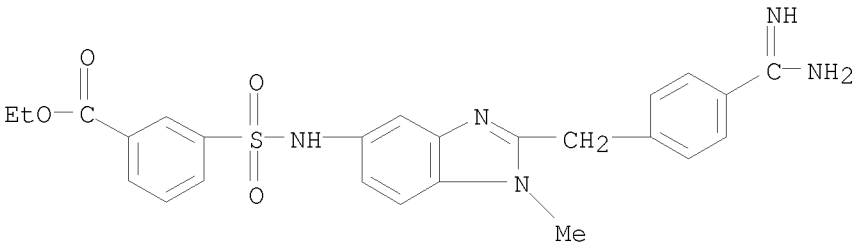


RN 236418-58-9 HCAPLUS
CN Glycine, N-[2-[(4-cyanophenyl)methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, ethyl ester (CA INDEX NAME)



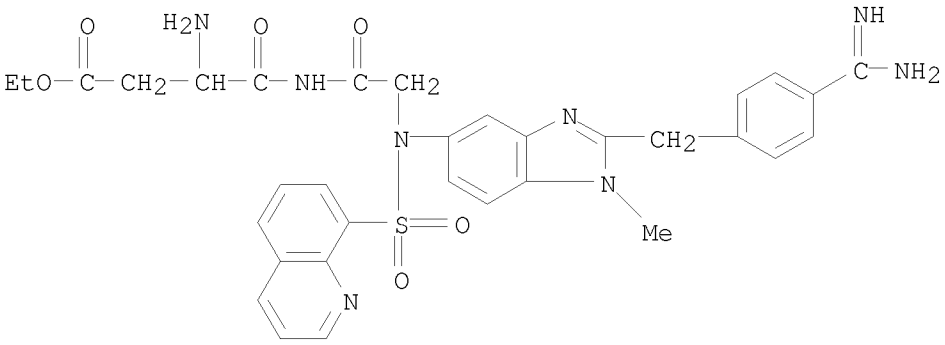
RN 237750-36-6 HCAPLUS

CN Benzoic acid, 3-[[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



● HCl

RN 237750-40-2 HCAPLUS
CN Butanoic acid, 3-amino-4-[[[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]acetyl]amino]-4-oxo-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

IT 236414-28-1P 236414-34-9P 236414-40-7P
236414-42-9P 236414-45-2P 236414-47-4P
236414-51-0P 236414-52-1P 236414-54-3P
236414-55-4P 236414-56-5P 236414-57-6P
236414-69-0P 236414-70-3P 236414-80-5P
236414-81-6P 236414-84-9P 236414-85-0P
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236415-09-1P 236415-10-4P 236415-11-5P
236415-14-8P 236415-15-9P 236415-18-2P
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236415-23-9P 236415-24-0P 236415-25-1P
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236415-40-0P 236415-42-2P 236415-44-4P
236415-45-5P 236415-46-6P 236415-49-9P
236415-50-2P 236415-51-3P 236415-52-4P
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236415-75-1P 236415-81-9P 236415-83-1P
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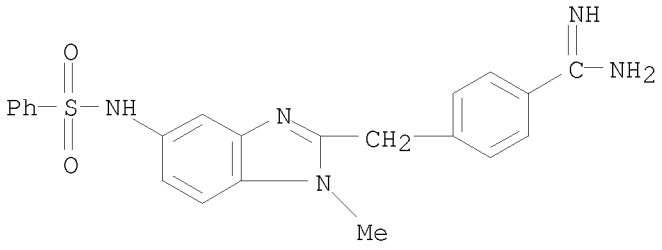
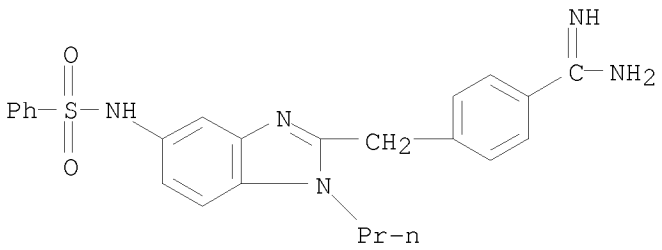
236415-99-9P 236416-01-6P 236416-23-2P
236416-36-7P 236416-46-9P 237750-39-9P
237750-41-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and antithrombotic activity of
benzimidazolylmethylbenzamidines)

RN 236414-28-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



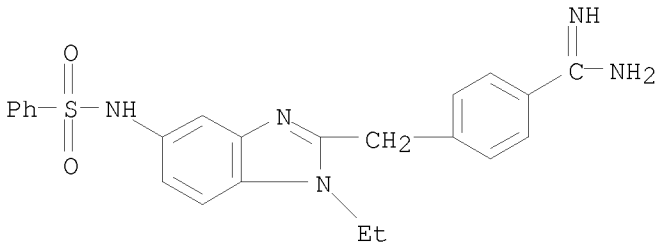
● HCl

RN 236414-34-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



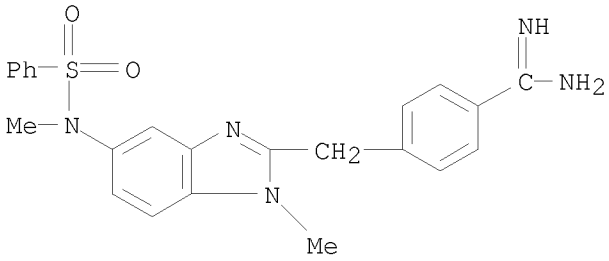
● HCl

RN 236414-40-7 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-ethyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



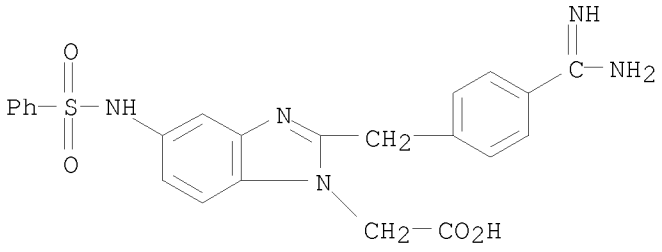
● HCl

RN 236414-42-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[methyl(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



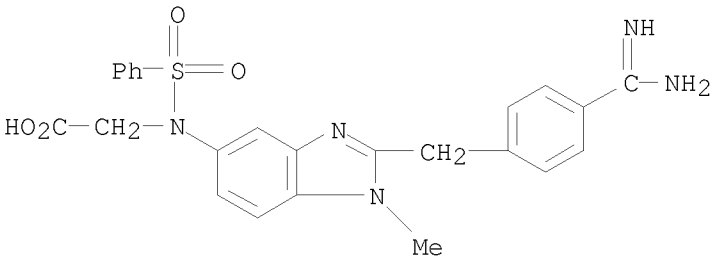
● HCl

RN 236414-45-2 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]- (CA INDEX NAME)



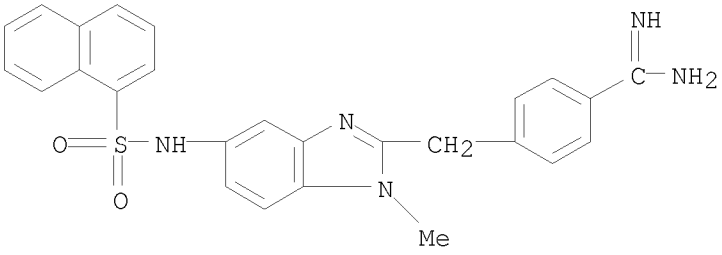
RN 236414-47-4 HCAPLUS

CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



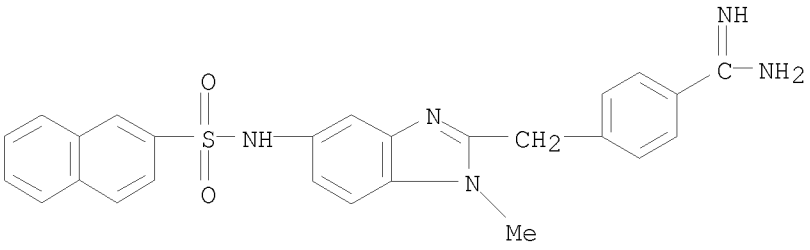
● HCl

RN 236414-51-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(1-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



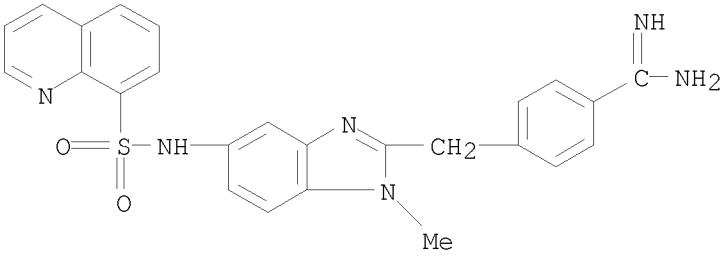
● HCl

RN 236414-52-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(2-naphthalenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



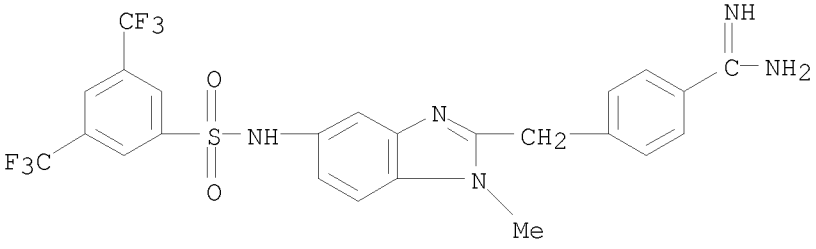
● HCl

RN 236414-54-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



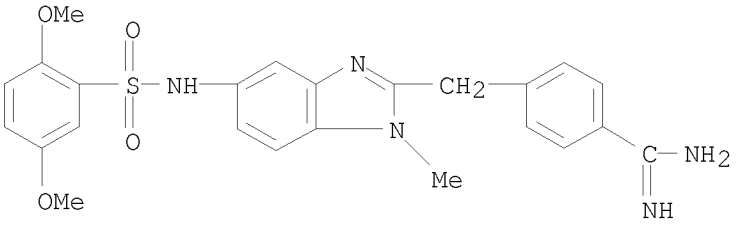
● HCl

RN 236414-55-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[[3,5-bis(trifluoromethyl)phenyl]sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



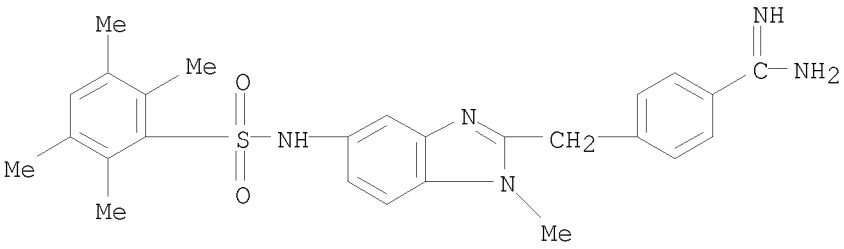
● HCl

RN 236414-56-5 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[(2,5-dimethoxyphenyl)sulfonyl]amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



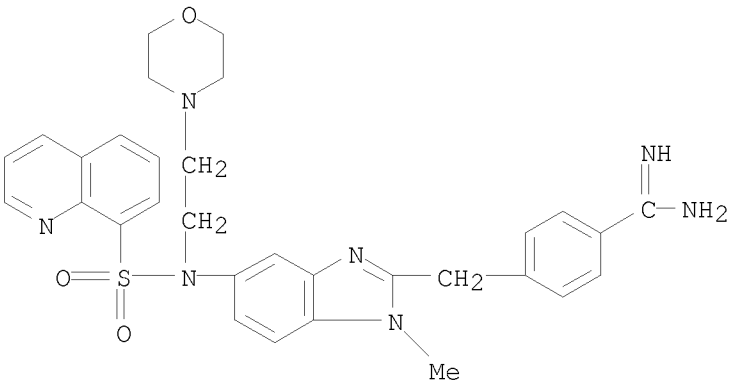
● HCl

RN 236414-57-6 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[(2,3,5,6-tetramethylphenyl)sulfonyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



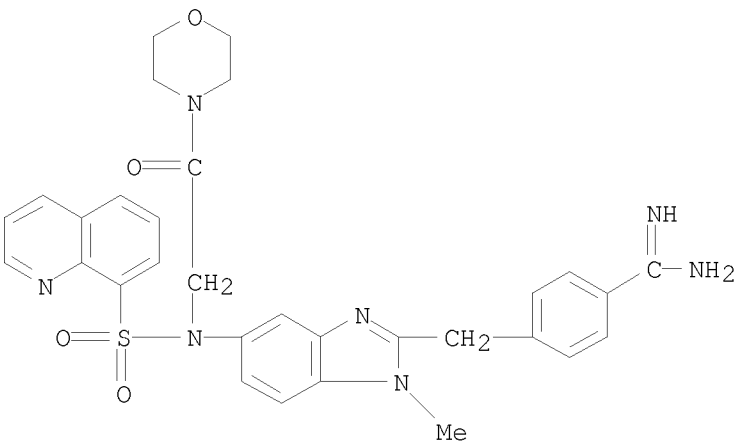
● HCl

RN 236414-69-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)ethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



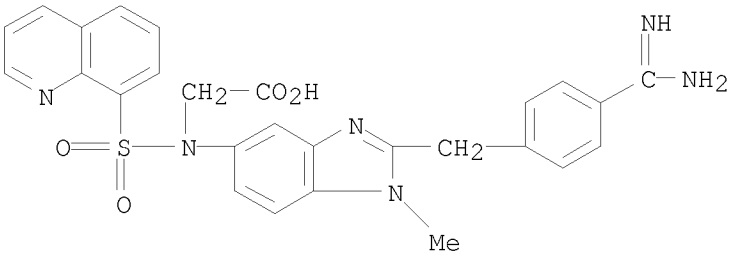
● 2 HCl

RN 236414-70-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-morpholinyl)-2-oxoethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



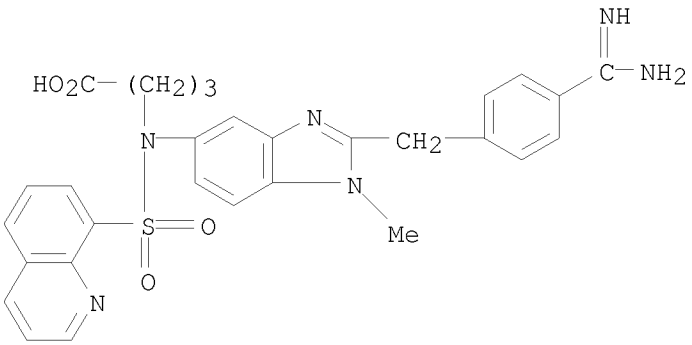
● HCl

RN 236414-80-5 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



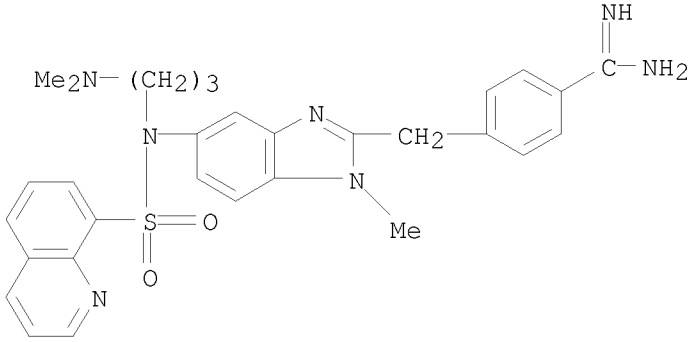
● HCl

RN 236414-81-6 HCAPLUS
CN Butanoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



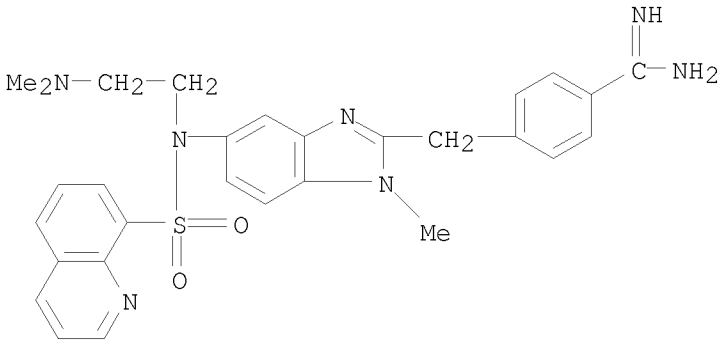
● HCl

RN 236414-84-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[3-(dimethylamino)propyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



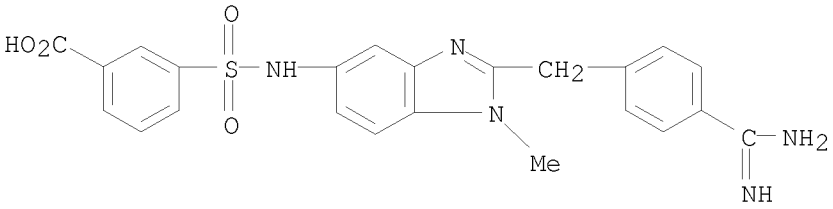
●2 HCl

RN 236414-85-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



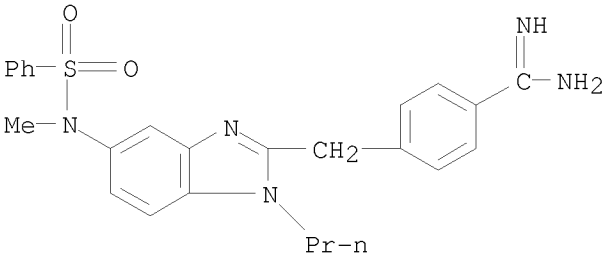
●2 HCl

RN 236414-87-2 HCAPLUS
CN Benzoic acid, 3-[[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]amino]sulfonyl]-, hydrochloride (1:1) (CA INDEX NAME)



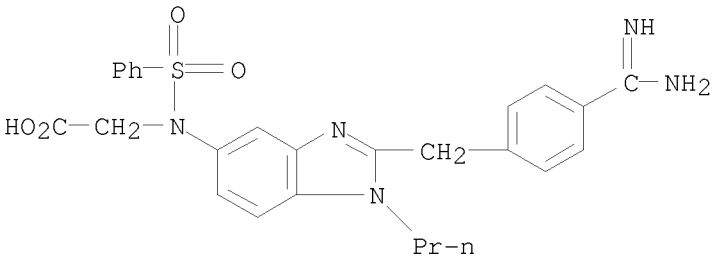
● HCl

RN 236414-91-8 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[methyl(phenylsulfonyl)amino]-1-propyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

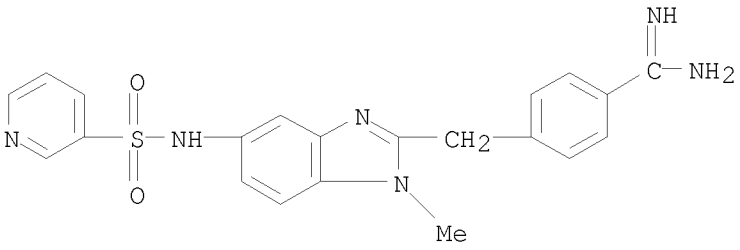
RN 236414-92-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-propyl-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

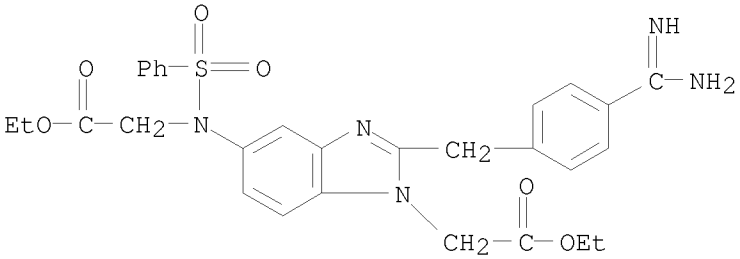
RN 236414-96-3 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[(3-pyridinylsulfonyl)amino]-1H-

benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



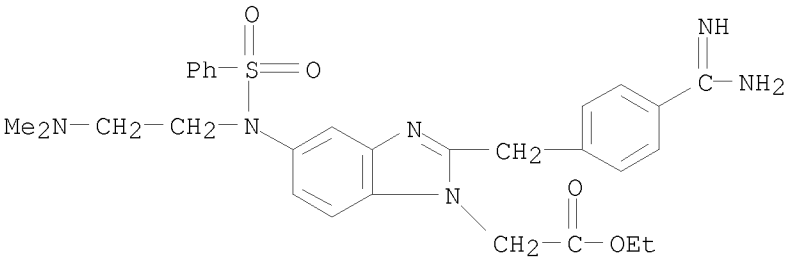
● HCl

RN 236414-97-4 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



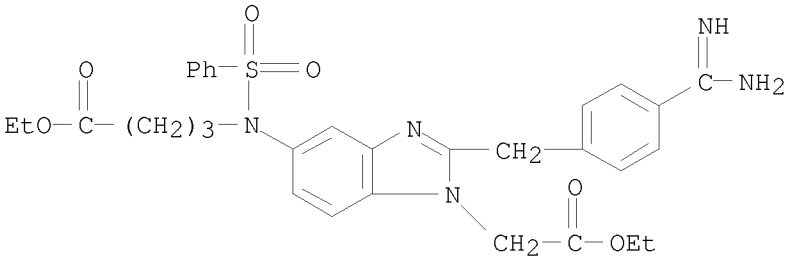
● HCl

RN 236414-98-5 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



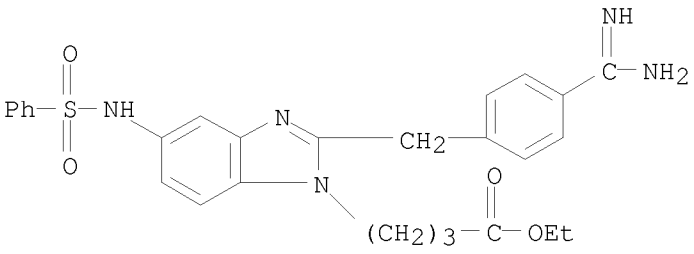
● 2 HCl

RN 236415-05-7 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(4-ethoxy-4-oxobutyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



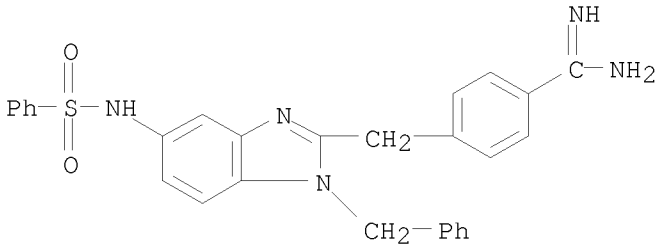
● HCl

RN 236415-07-9 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



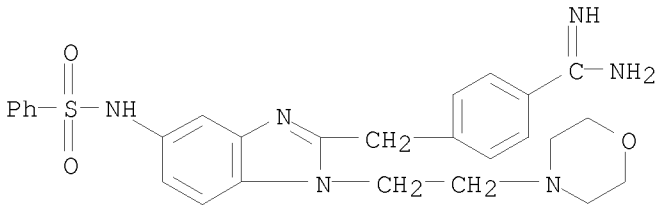
● HCl

RN 236415-08-0 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



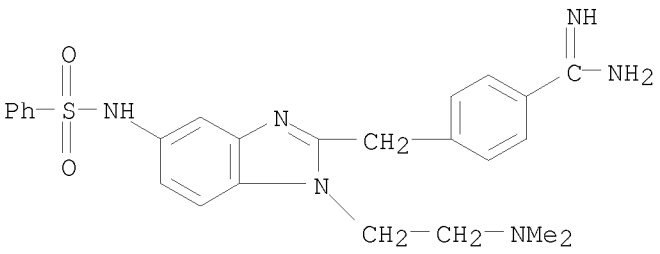
● HCl

RN 236415-09-1 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-[2-(4-morpholinyl)ethyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



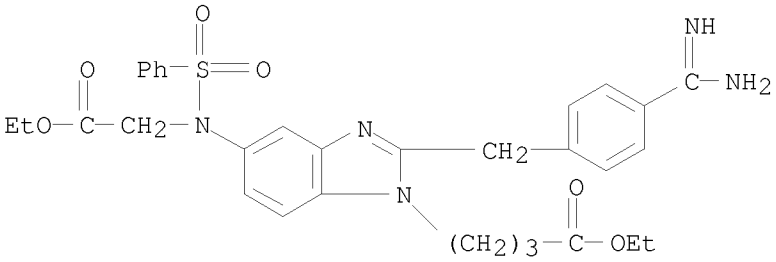
●2 HCl

RN 236415-10-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-[2-(dimethylamino)ethyl]-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



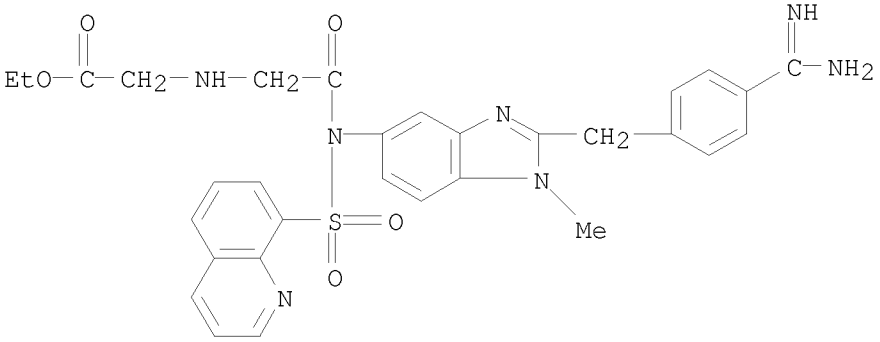
● 2 HCl

RN 236415-11-5 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-ethoxy-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



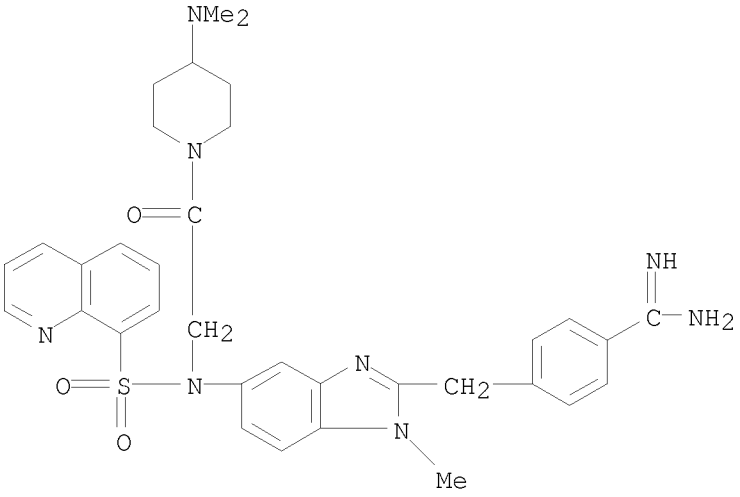
● HCl

RN 236415-14-8 HCAPLUS
CN Glycine, N-[2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)



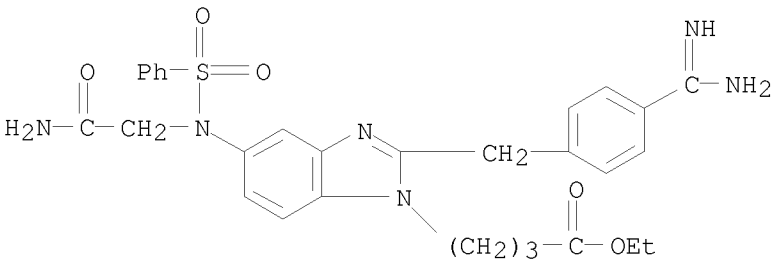
● HCl

RN 236415-15-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-[4-(dimethylamino)-1-piperidinyl]-2-oxoethyl](8-quinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



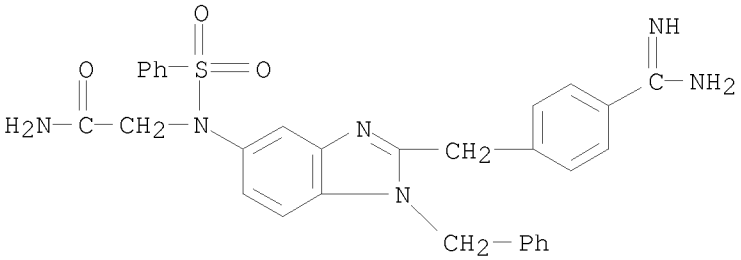
●2 HCl

RN 236415-18-2 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(2-amino-2-oxoethyl)(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



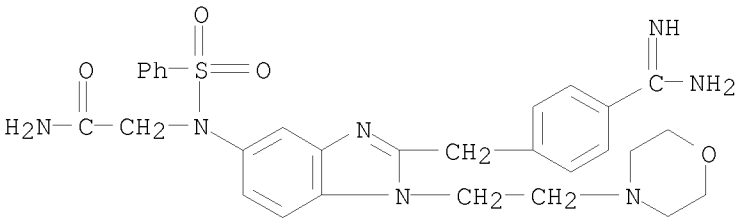
● HCl

RN 236415-19-3 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



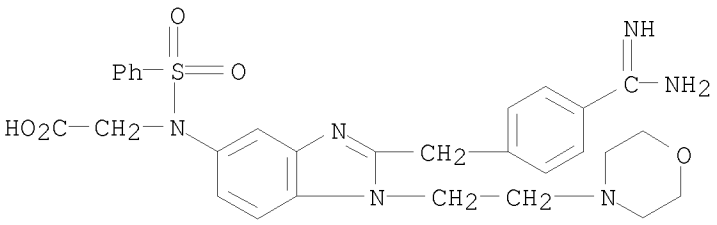
● HCl

RN 236415-20-6 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



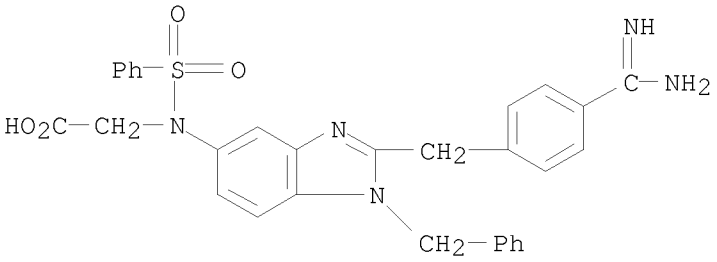
● 2 HCl

RN 236415-21-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, dihydrochloride (9CI) (CA INDEX NAME)



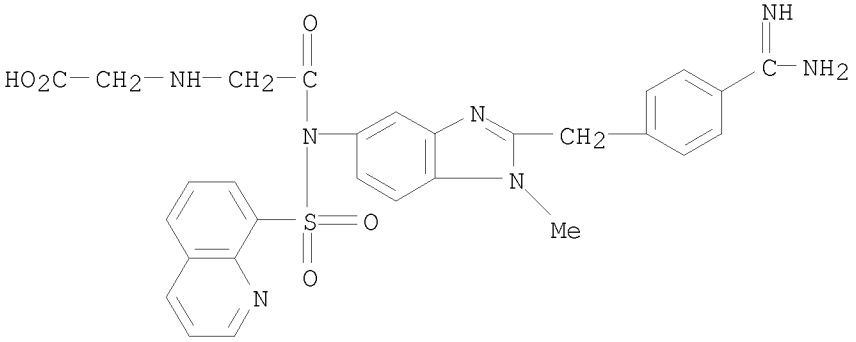
● 2 HCl

RN 236415-23-9 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-(phenylmethyl)-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



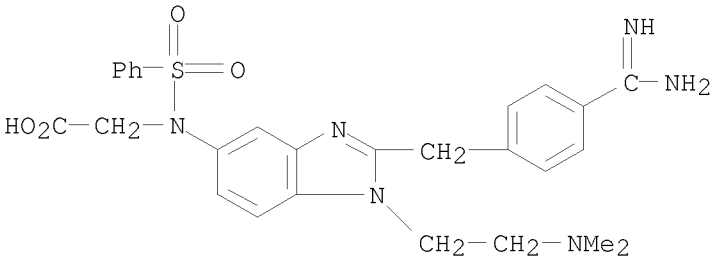
● HCl

RN 236415-24-0 HCAPLUS
CN Glycine, N-[2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]-2-oxoethyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

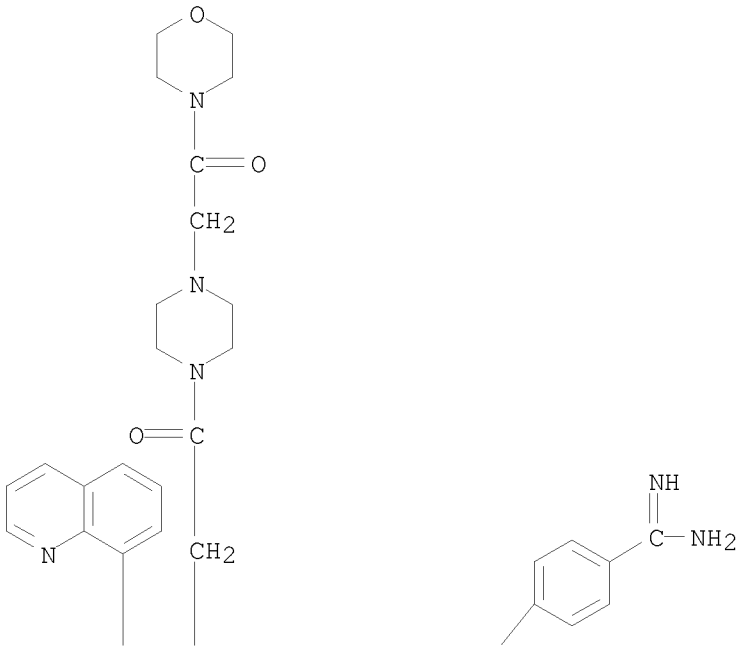
RN 236415-25-1 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl]-N-(phenylsulfonyl)-, dihydrochloride (9CI) (CA INDEX NAME)



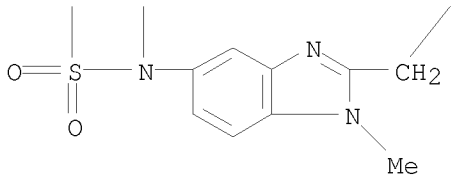
● 2 HCl

RN 236415-30-8 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-[4-[2-(4-morpholinyl)-2-oxoethyl]-1-piperazinyl]-2-oxoethyl](8-quinolinylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

PAGE 1-A

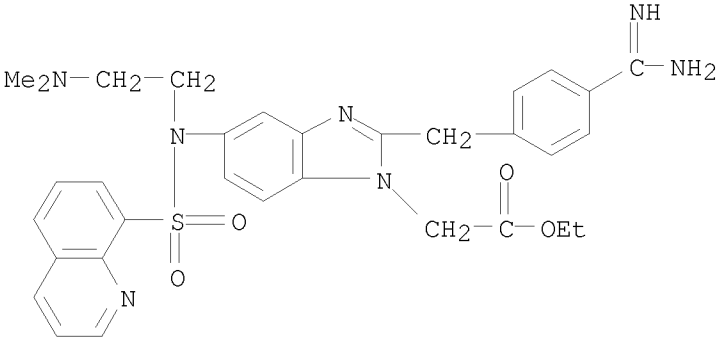


PAGE 2-A



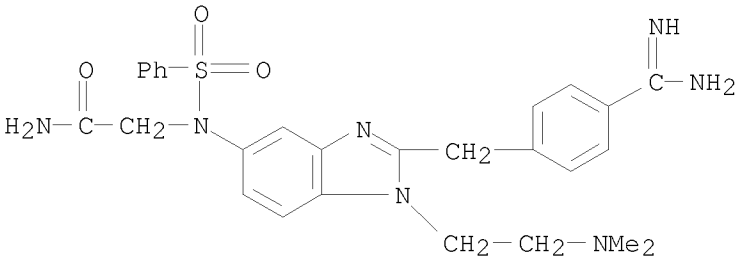
● 2 HCl

RN 236415-31-9 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



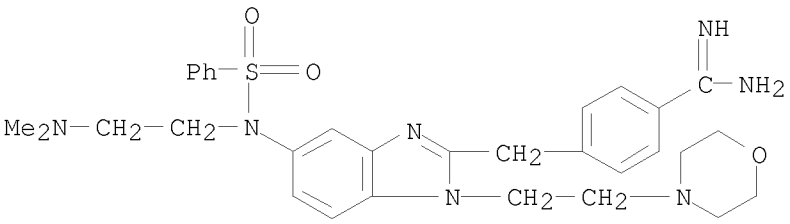
●2 HCl

RN 236415-32-0 HCAPLUS
CN Acetamide, 2-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-[2-(dimethylamino)ethyl]-1H-benzimidazol-5-yl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



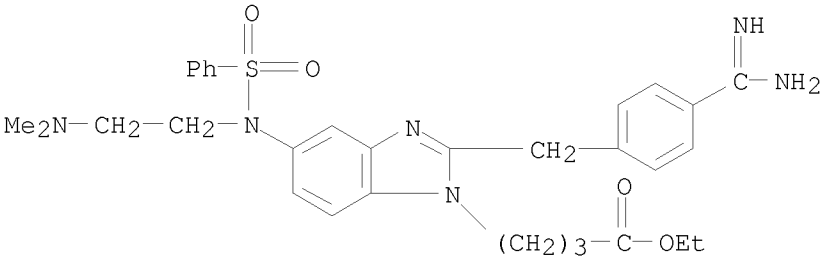
●2 HCl

RN 236415-34-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:3) (CA INDEX NAME)



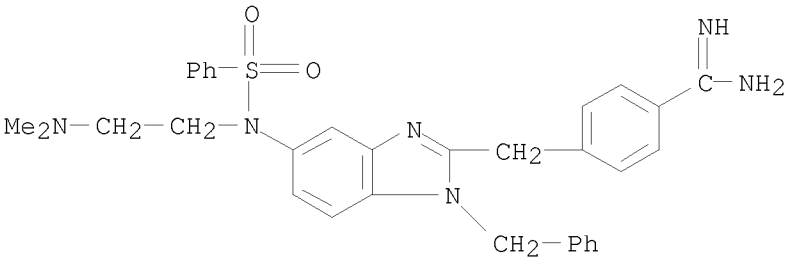
●3 HCl

RN 236415-35-3 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



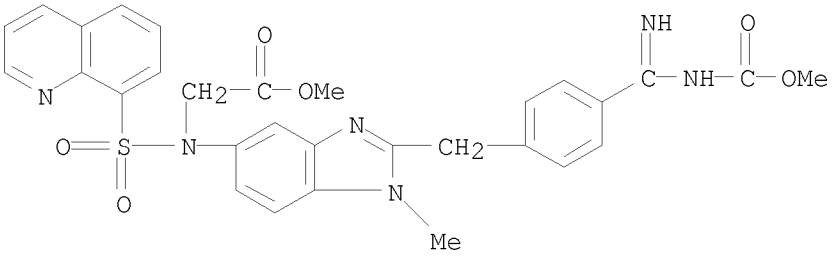
●2 HCl

RN 236415-36-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-(phenylmethyl)-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

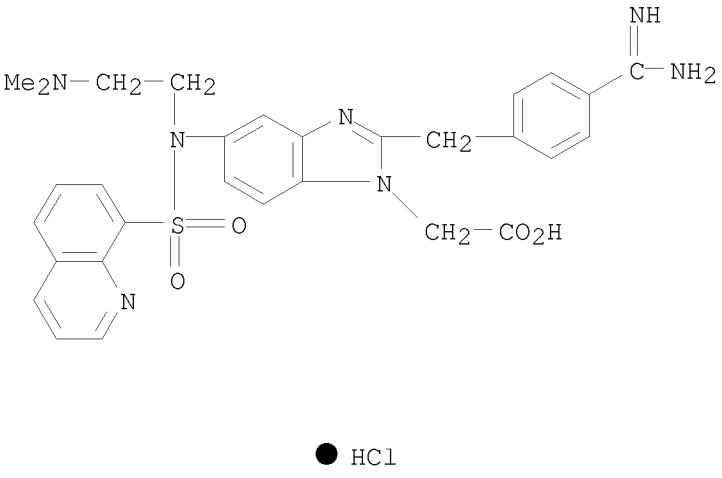


●2 HCl

RN 236415-40-0 HCAPLUS
CN Glycine, N-[2-[[4-[imino[(methoxycarbonyl)amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)

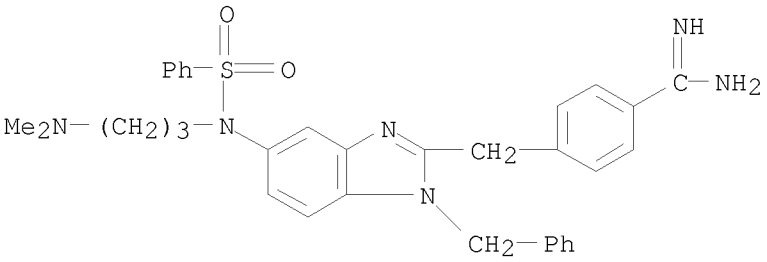


RN 236415-42-2 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](8-quinolinylsulfonyl)amino]-, hydrochloride (1:1) (CA INDEX NAME)



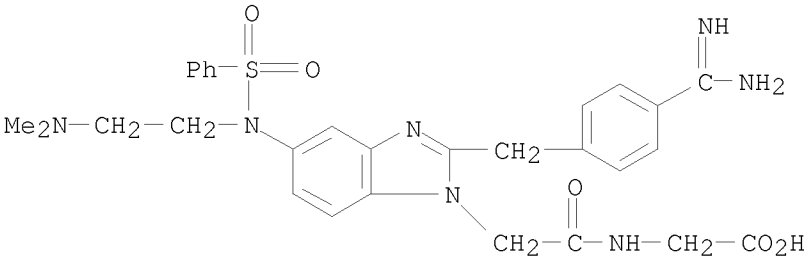
● HCl

RN 236415-44-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-1-(phenylmethyl)-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



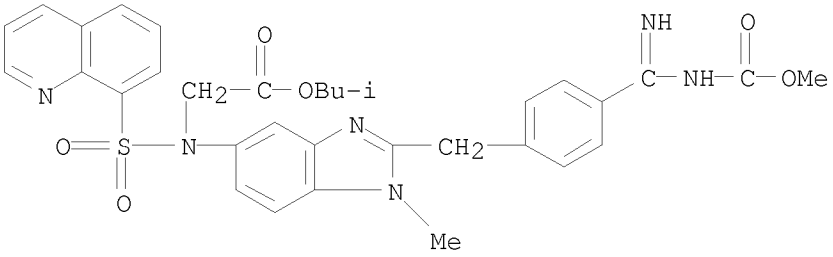
● 2 HCl

RN 236415-45-5 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)

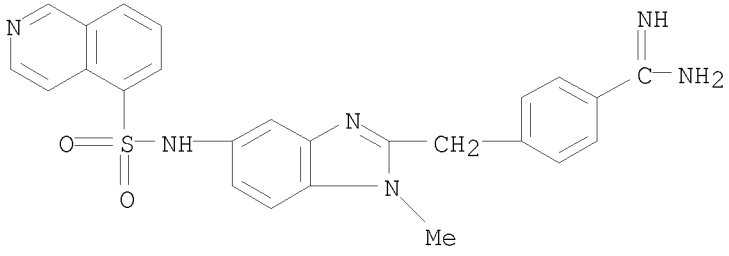


● 2 HCl

RN 236415-46-6 HCAPLUS
CN Glycine, N-[2-[[4-[imino[(methoxycarbonyl)amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, 2-methylpropyl ester (CA INDEX NAME)

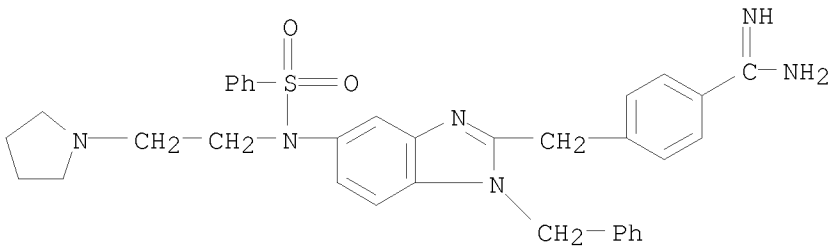


RN 236415-49-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[(5-isoquinolinylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:1) (CA INDEX NAME)



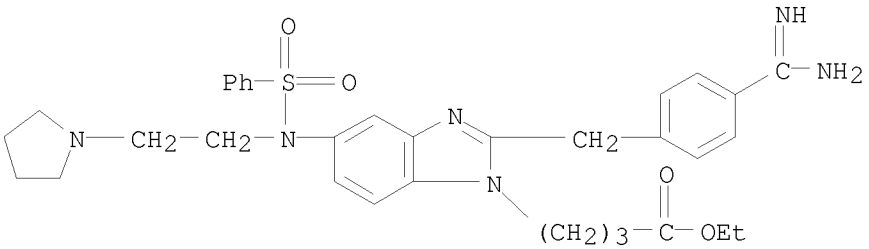
● HCl

RN 236415-50-2 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



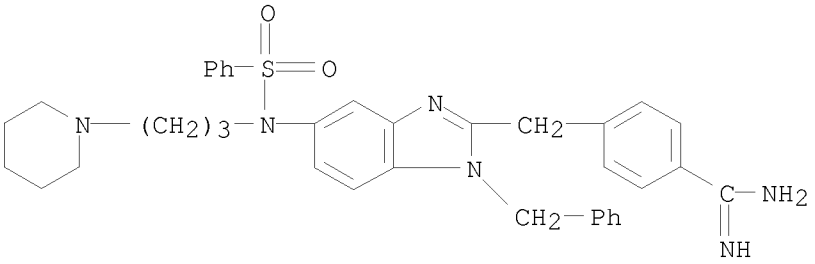
●2 HCl

RN 236415-51-3 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[2-(1-pyrrolidinyl)ethyl]amino]-, ethyl ester, hydrochloride (1:2) (CA INDEX NAME)



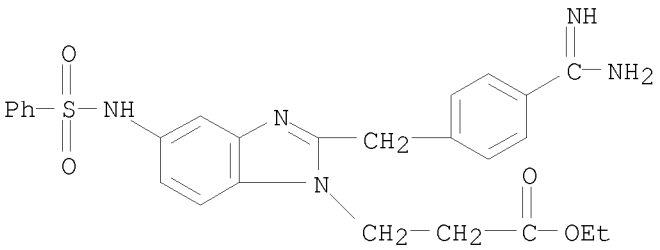
● 2 HCl

RN 236415-52-4 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-(phenylmethyl)-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



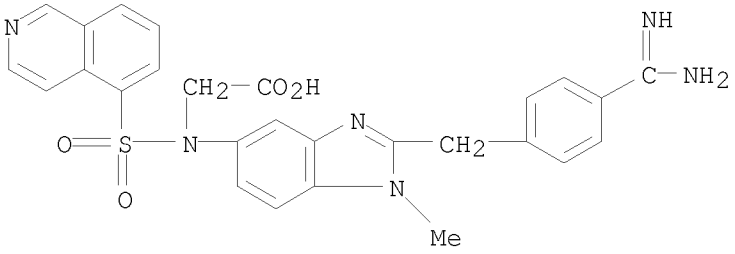
● 2 HCl

RN 236415-53-5 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)amino]-, ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



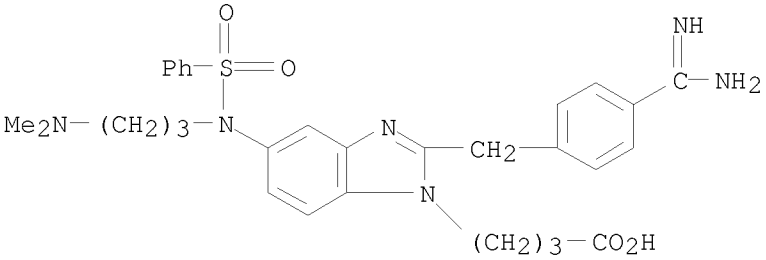
● HCl

RN 236415-55-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(5-isoquinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



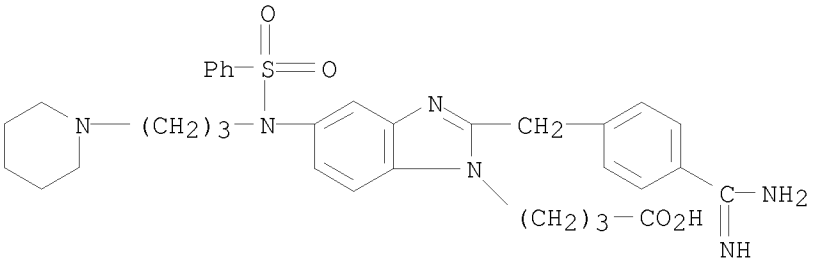
● HCl

RN 236415-58-0 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



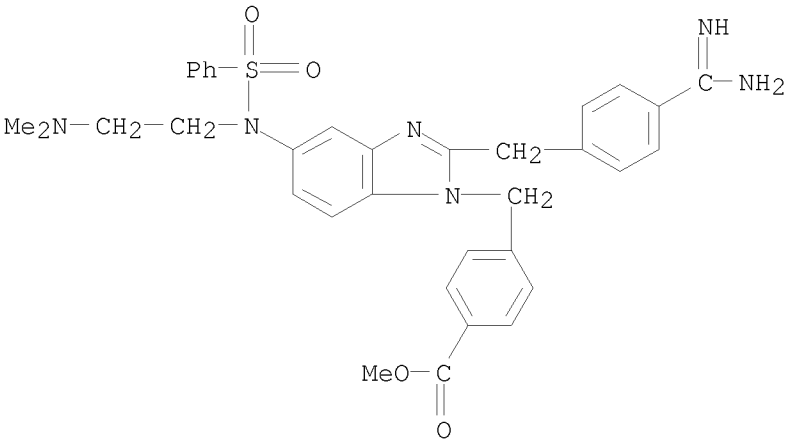
●2 HCl

RN 236415-59-1 HCAPLUS
CN 1H-Benzimidazole-1-butanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[(phenylsulfonyl)[3-(1-piperidinyl)propyl]amino]-, hydrochloride (1:2) (CA INDEX NAME)



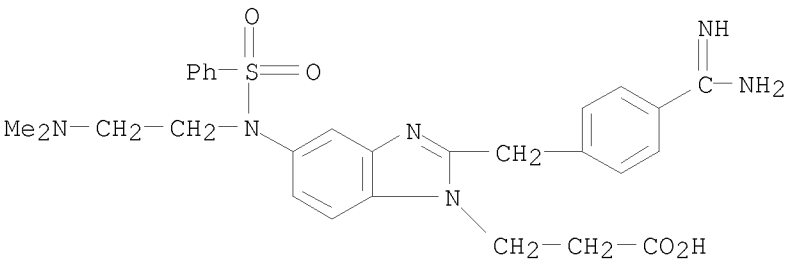
●2 HCl

RN 236415-60-4 HCAPLUS
CN Benzoic acid, 4-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]methyl]-, methyl ester, hydrochloride (1:2) (CA INDEX NAME)



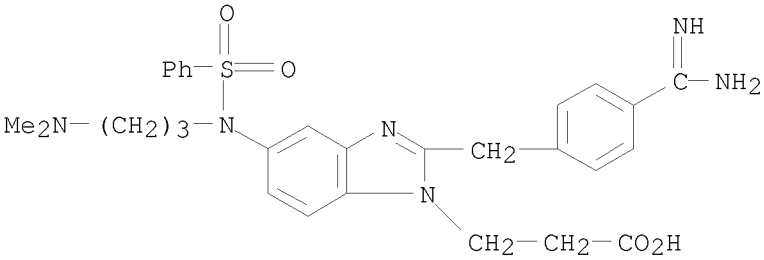
●2 HCl

RN 236415-64-8 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



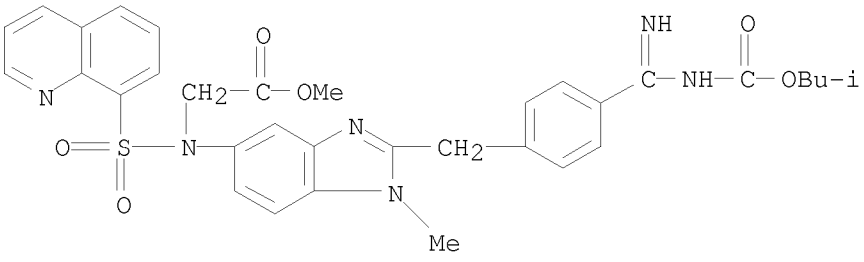
●2 HCl

RN 236415-65-9 HCAPLUS
CN 1H-Benzimidazole-1-propanoic acid, 2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[3-(dimethylamino)propyl](phenylsulfonyl)amino]-, hydrochloride (1:2) (CA INDEX NAME)



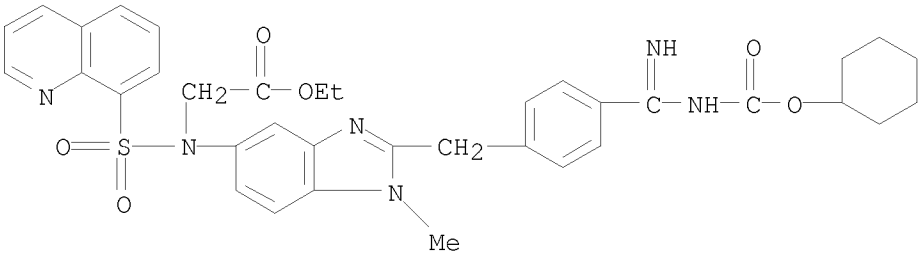
●2 HCl

RN 236415-70-6 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(2-methylpropoxy)carbonyl]amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, methyl ester (CA INDEX NAME)

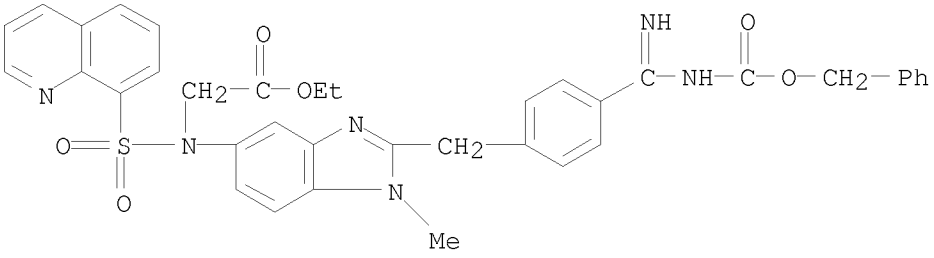


RN 236415-74-0 HCAPLUS

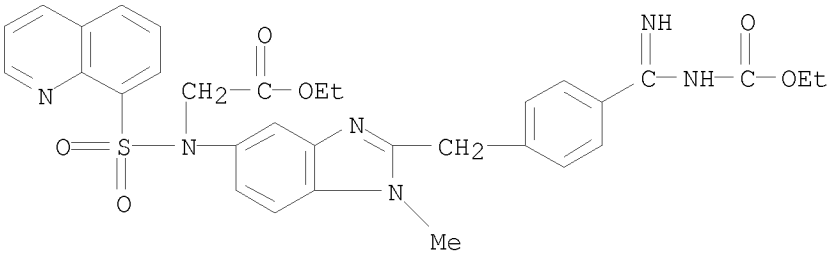
CN Glycine, N-[2-[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



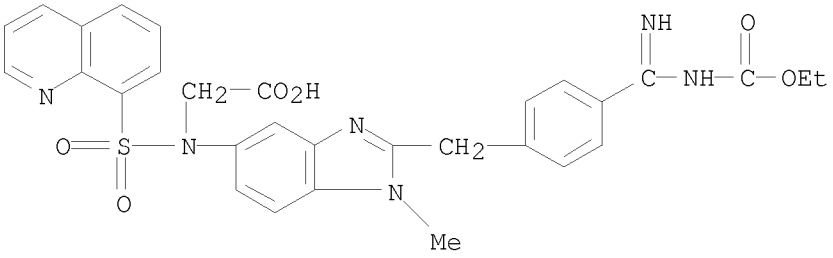
RN 236415-75-1 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(phenylmethoxy)carbonyl]amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



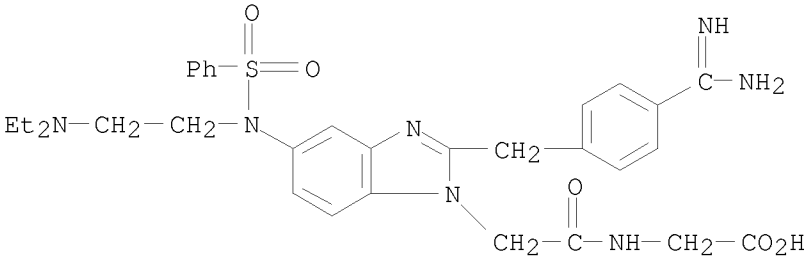
RN 236415-81-9 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, ethyl ester (CA INDEX NAME)



RN 236415-83-1 HCAPLUS
CN Glycine, N-[2-[[4-[[(ethoxycarbonyl)amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)

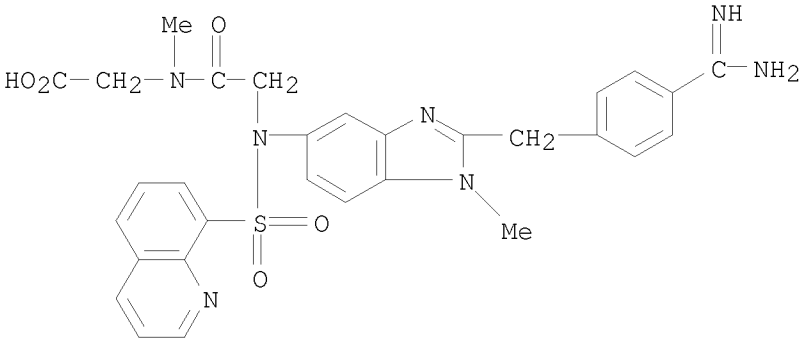


RN 236415-88-6 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)



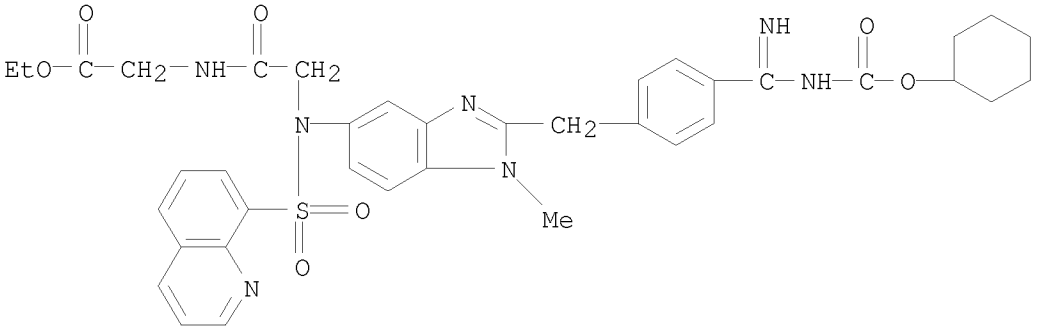
● 2 HCl

RN 236415-97-7 HCAPLUS
CN Glycine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-N-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

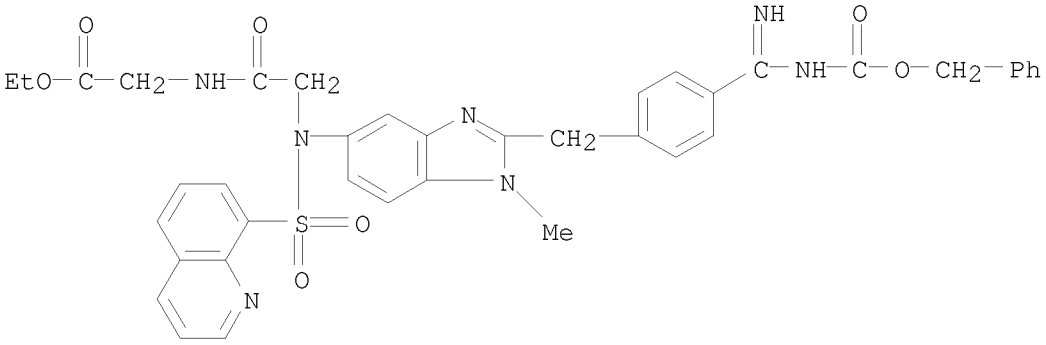


● HCl

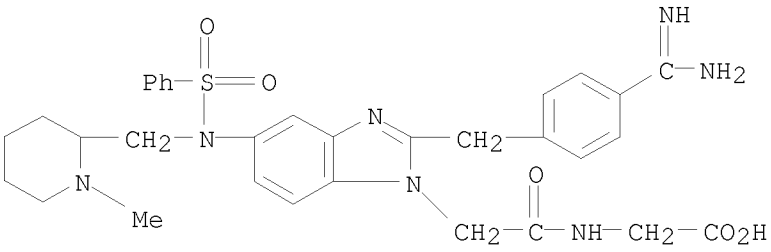
RN 236415-98-8 HCAPLUS
CN Glycine, N-[2-[[4-[[[(cyclohexyloxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)



RN 236415-99-9 HCAPLUS
CN Glycine, N-[2-[[4-[imino[[(phenylmethoxy)carbonyl]amino]methyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)glycyl-, ethyl ester (CA INDEX NAME)

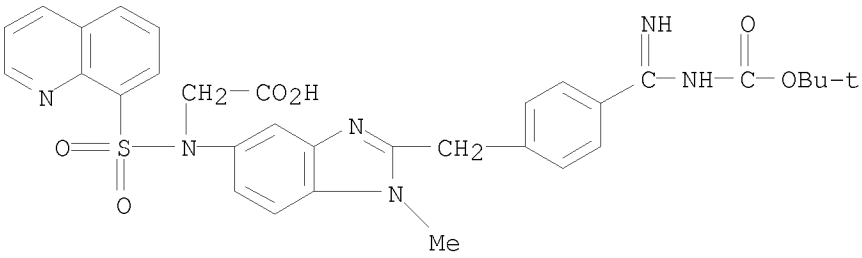


RN 236416-01-6 HCAPLUS
CN Glycine, N-[[2-[[4-(aminoiminomethyl)phenyl]methyl]-5-[[(1-methyl-2-piperidinyl)methyl](phenylsulfonyl)amino]-1H-benzimidazol-1-yl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)

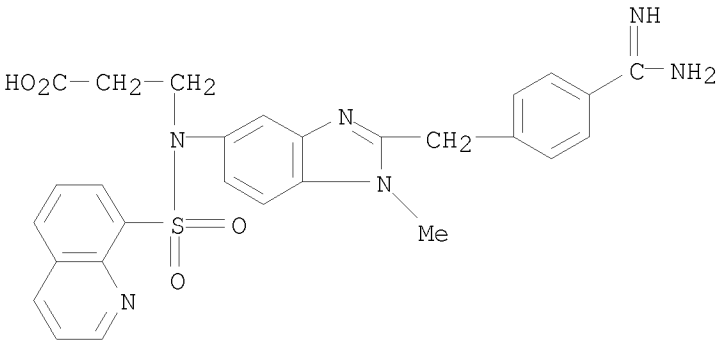


● 2 HCl

RN 236416-23-2 HCAPLUS
CN Glycine, N-[2-[[4-[[[(1,1-dimethylethoxy)carbonyl]amino]iminomethyl]phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)- (CA INDEX NAME)

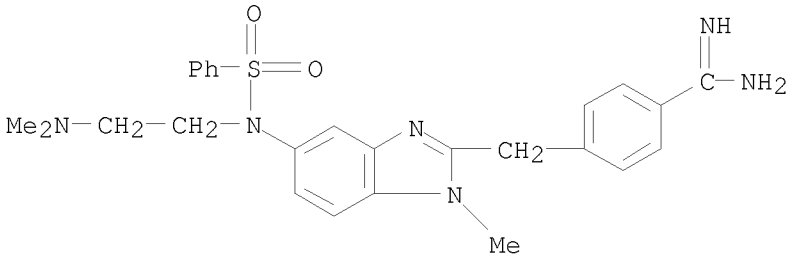


RN 236416-36-7 HCAPLUS
CN β-Alanine, N-[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl]-N-(8-quinolinylsulfonyl)-, monohydrochloride (9CI) (CA INDEX NAME)



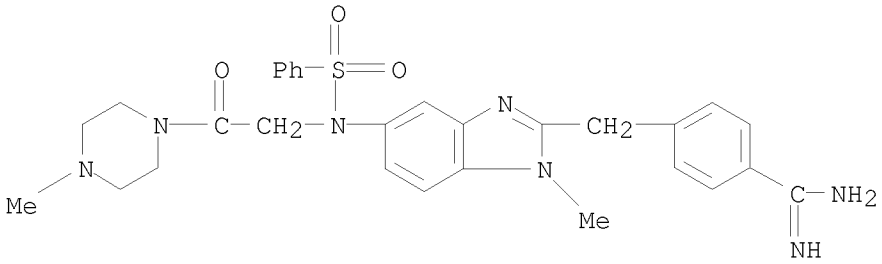
● HCl

RN 236416-46-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[5-[[2-(dimethylamino)ethyl](phenylsulfonyl)amino]-1-methyl-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



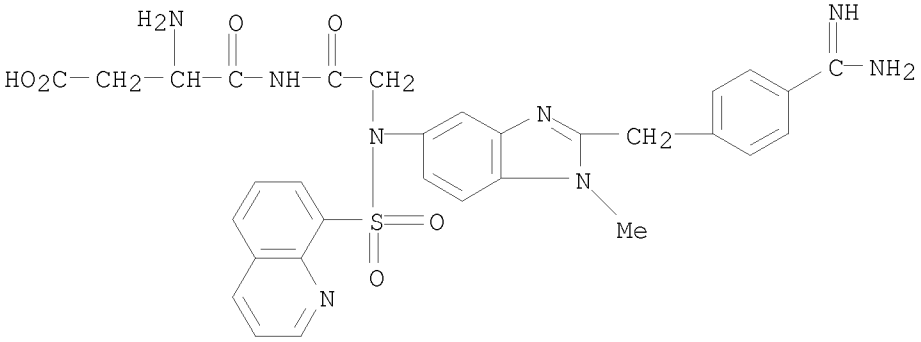
●2 HCl

RN 237750-39-9 HCAPLUS
CN Benzenecarboximidamide, 4-[[1-methyl-5-[[2-(4-methyl-1-piperazinyl)-2-oxoethyl](phenylsulfonyl)amino]-1H-benzimidazol-2-yl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)



●2 HCl

RN 237750-41-3 HCAPLUS
CN Butanoic acid, 3-amino-4-[[[[2-[[4-(aminoiminomethyl)phenyl]methyl]-1-methyl-1H-benzimidazol-5-yl](8-quinolinylsulfonyl)amino]acetyl]amino]-4-oxo-, monohydrochloride (9CI) (CA INDEX NAME)

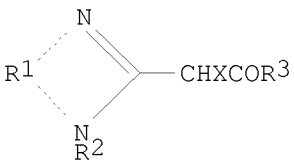


● HCl

L9 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1995:276771 HCAPLUS
DOCUMENT NUMBER: 122:68173
ORIGINAL REFERENCE NO.: 122:12811a,12814a
TITLE: silver halide color photographic material
INVENTOR(S): Iizuka, Hiroyuki
PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06110166	A	19940422	JP 1992-256841	19920925 <--

PRIORITY APPLN. INFO.: JP 1992-256841 19920925
GI



I

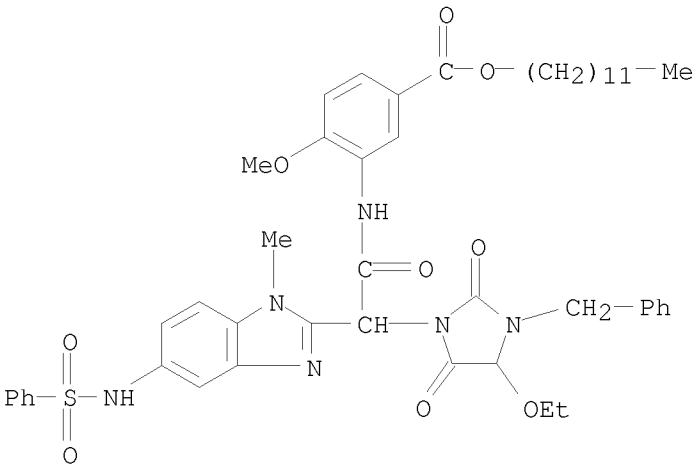
AB A silver halide color photog. material showing improved storage stability before exposure comprises blue-, green-, and red-sensitive silver halide emulsion layers, wherein ≥1 of the blue-sensitive silver halide emulsion layers contains ≥1 coupler represented by the formula I (R1 = a nonmetallic atomic group necessary for forming a 5-membered unsatd. heterocyclic ring along with the -N=(C)NR2- residue; R2 = H, alkyl,

alkenyl, alkynyl, an aromatic group, or heterocyclyl; R3 = alkyl, alkenyl, alkynyl, an aromatic group, alkoxy, aryloxy, heterocyclyloxy, or NR4R5; R4, R5 = H, alkyl, alkenyl, alkynyl, an aromatic group, or heterocyclyl; X = a group releasing upon reaction with an oxidized aromatic primary amine developer) and ≥1 noncolor-forming compound represented by the formula R6R7R8COH (R6 = alkyl, alkenyl, or aryl; R7, R8 = H, alkyl, alkenyl, or aryl).

IT 144761-75-1
RL: TEM (Technical or engineered material use); USES (Uses)
(yellow photog. coupler)

RN 144761-75-1 HCAPLUS

CN Benzoic acid, 3-[[2-[4-ethoxy-2,5-dioxo-3-(phenylmethyl)-1-imidazolidinyl]-2-[1-methyl-5-[(phenylsulfonyl)amino]-1H-benzimidazol-2-yl]acetyl]amino]-4-methoxy-, dodecyl ester (CA INDEX NAME)



L9 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:508789 HCAPLUS
DOCUMENT NUMBER: 121:108789
ORIGINAL REFERENCE NO.: 121:19651a,19654a
TITLE: Preparation of substituted benzimidazole derivs. for use as pesticides
INVENTOR(S): Lunkenheimer, Winfried; Baasner, Bernd; Lieb, Folker; Boehm, Stefan; Marhold, Albrecht; Goergens, Ulrich; Stendel, Wilhelm; Dehne, Heinz Wilhelm; Santel, Hans Joachim
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Ger. Offen., 67 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

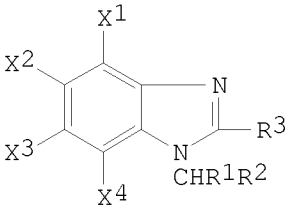
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4237557	A1	19940511	DE 1992-4237557	19921106 <--
CA 2148612	A1	19940526	CA 1993-2148612	19931025 <--

CA 2148612	C	20070515			
WO 9411349	A1	19940526	WO 1993-EP2946	19931025	<--
W: AU, BR, BY, CA, CZ, HU, JP, KR, KZ, NZ, RU, SK, UA, US					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
AU 9453377	A	19940608	AU 1994-53377	19931025	<--
EP 667861	A1	19950823	EP 1993-923545	19931025	<--
EP 667861	B1	20000719			
R: AT, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, NL, PT, SE					
HU 72091	A2	19960328	HU 1995-1292	19931025	<--
JP 08506088	T	19960702	JP 1994-511643	19931025	<--
BR 9307389	A	19990831	BR 1993-7389	19931025	<--
AT 194834	T	20000815	AT 1993-923545	19931025	<--
ES 2148242	T3	20001016	ES 1993-923545	19931025	<--
US 5656649	A	19970812	US 1995-428087	19950525	<--
US 5863933	A	19990126	US 1997-822565	19970319	<--

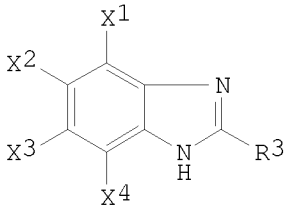
PRIORITY APPLN. INFO.:	DE 1992-4237557	A	19921106
	WO 1993-EP2946	W	19931025
	US 1995-428087	A3	19950525

OTHER SOURCE(S): MARPAT 121:108789

GI



I



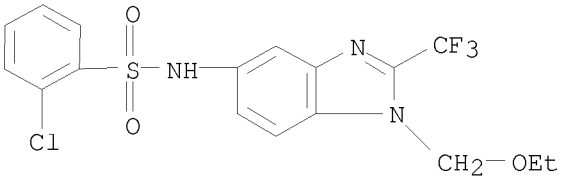
II

AB A process for the preparation of benzimidazoles of the general formula I wherein R1 can be H, alkyl, alkoxy, or substituted aryl and R2 can be OH, CN, or alkyl, aryl, alkenyl, amino, alkoxycarbonyl, etc. and R3 is fluoroalkyl and X1, X2, X3 are independently H, halogen, cyano, nitro, or substituted alkyl, alkoxy, alkylsulfonyl, amino, aryl, etc. comprises the treatment of benzimidazole derivative of formula II (X1, X2, X3, X4, R3 as above) with compound of formula ACHR1R2 (R1, R2 as above) wherein A represents a specific leaving group. E.g., 5(6)-phenyl-2-trimethyl-1H-benzimidazole and KCO3 and EtOAc are refluxed for 15 min. whereupon chloromethyl Et ether in EtOAc is added and refluxed to give 1-ethoxymethyl-5(6)-phenyl-2-trifluoromethylbenzimidazole as a mixture of 1:1 regioisomers in 71%. Compds. of formula I are shown to be useful as pesticides against a variety of insect pests.

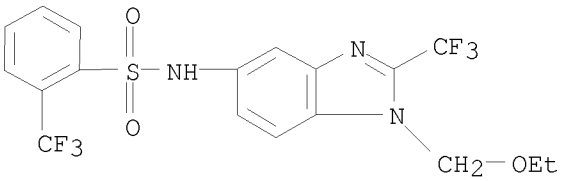
IT 156493-71-9P 156493-72-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 156493-71-9 HCAPLUS

CN Benzenesulfonamide, 2-chloro-N-[1-(ethoxymethyl)-2-(trifluoromethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



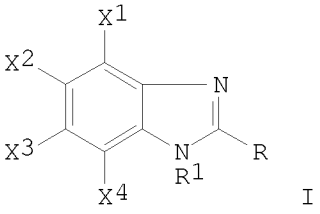
RN 156493-72-0 HCAPLUS
CN Benzenesulfonamide, N-[1-(ethoxymethyl)-2-(trifluoromethyl)-1H-benzimidazol-5-yl]-2-(trifluoromethyl)- (CA INDEX NAME)



L9 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:499774 HCAPLUS
DOCUMENT NUMBER: 121:99774
ORIGINAL REFERENCE NO.: 121:17707a,17710a
TITLE: Preparation of substituted benzimidazoles as protozoacides.
INVENTOR(S): Lunkenheimer, Winfried; Baasner, Bernd; Lieb, Folker; Haberkorn, Axel
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Ger. Offen., 102 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4237617	A1	19940511	DE 1992-4237617	19921106 <--
AU 9348731	A	19940519	AU 1993-48731	19930930 <--
AU 670317	B2	19960711		
EP 597304	A1	19940518	EP 1993-117243	19931025 <--
EP 597304	B1	20010110		
R: BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
ES 2154641	T3	20010416	ES 1993-117243	19931025 <--
US 5482956	A	19960109	US 1993-146634	19931029 <--
JP 06219946	A	19940809	JP 1993-296008	19931102 <--
GR 3035574	T3	20010629	GR 2001-400421	20010314 <--

PRIORITY APPLN. INFO.: DE 1992-4237617 A 19921106
OTHER SOURCE(S): MARPAT 121:99774
GI

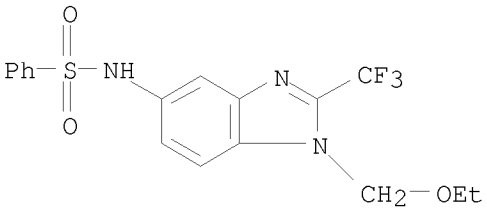


I

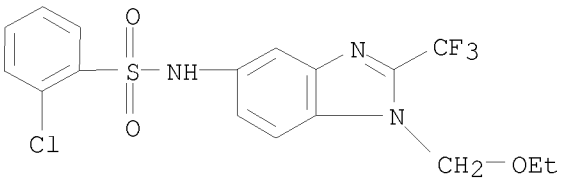
AB The benzimidazoles I [X1-4=H,halo,CN,NO2,(un)substituted alkyl, alkoxy, etc.; R=fluoroalkyl;R1=(un)substituted alkyl,dialkoxyphosphonyl, etc.] are prepared as protozoacides. 5(6)-Phenyl-2-trifluoromethyl-1H-benzimidazole (preparation given) was refluxed with chloromethyl Et ether, in K2CO3-containing Et acetate, to give 1-ethoxymethyl-5(6)-phenyl-2-trifluoromethyl-1H-benzimidazole. I (not specified) was used for treatment of coccidiosis in chicken.

IT 156493-70-8P 156493-71-9P 156493-72-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of, as protozoacide)

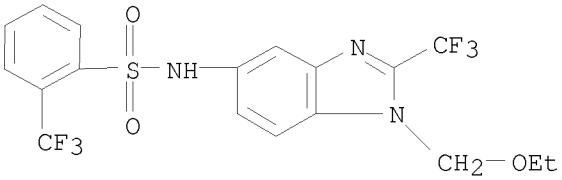
RN 156493-70-8 HCAPLUS
CN Benzenesulfonamide, N-[1-(ethoxymethyl)-2-(trifluoromethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 156493-71-9 HCAPLUS
CN Benzenesulfonamide, 2-chloro-N-[1-(ethoxymethyl)-2-(trifluoromethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 156493-72-0 HCAPLUS
CN Benzenesulfonamide, N-[1-(ethoxymethyl)-2-(trifluoromethyl)-1H-benzimidazol-5-yl]-2-(trifluoromethyl)- (CA INDEX NAME)

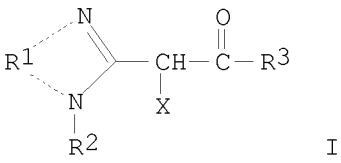


=> d l9 ibib abs 11-21

L9 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:120558 HCAPLUS
DOCUMENT NUMBER: 120:120558
ORIGINAL REFERENCE NO.: 120:21057a,21060a
TITLE: Color photographic material and its processing
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04184435	A	19920701	JP 1990-314526	19901120 <--

PRIORITY APPLN. INFO.: JP 1990-314526 19901120
GI



I

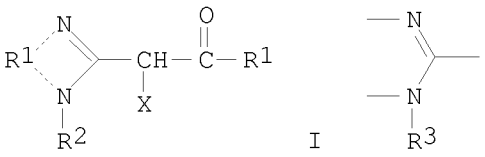
AB The title photog. material contains a coupler I [R1 = nonmetallic atoms required to complete a 5-membered unsatd. heterocyclyl; R2 = H, alkyl, alkenyl, alkynyl, aromatic group, heterocyclyl; R3 = alkyl, alkenyl, alkynyl, aromatic group, alkoxy, aryloxy, heterocyclyloxy, NR4R5; R4-5 = H, alkyl, alkenyl, alkynyl, aromatic group, heterocyclyl; X = group releasable on reaction with oxidized developer], and a compound which will release a bleaching assistant or its precursor on reaction with the oxidized developer. The photog. material is processed within 3.25 min. following color development. Improved graininess and sharpness are achieved.

L9 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:505749 HCAPLUS
DOCUMENT NUMBER: 119:105749
ORIGINAL REFERENCE NO.: 119:18835a,18838a

TITLE: Silver halide color photographic material having improved graininess and light fastness
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 158 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04235550	A	19920824	JP 1991-12686	19910111 <--

PRIORITY APPLN. INFO.: JP 1991-12686 19910111
GI



AB A Ag halide color photog. material having ≥1 photosensitive emulsion layer on a support comprises a coupler or a yellow-colored cyan coupler I [R1 = nonmetallic atomic group forming a 5-membered unsatd. heterocyclyl with II; R2 = H, alkyl, alkenyl, alkynyl, aromatic, heterocyclyl; R3 = alkyl, alkenyl, alkynyl, aromatic, alkoxy, aryloxy, heterocyclic oxy, NR4R5; R4,5 = H, alkyl, alkenyl, arom or heterocyclic alkynyl; X = moiety being released in reaction with aromatic primary amine developing agent].

L9 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:417801 HCAPLUS
DOCUMENT NUMBER: 119:17801
ORIGINAL REFERENCE NO.: 119:3185a,3188a
TITLE: Color photographic material with high photosensitivity and image density
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 88 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04184433	A	19920701	JP 1990-314522	19901120 <--

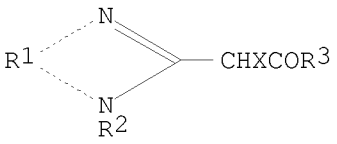
PRIORITY APPLN. INFO.: JP 1990-314522 19901120
GI For diagram(s), see printed CA Issue.
AB The title photog. material contains a coupler I [R1 = nonmetallic atoms required to complete a 5-membered unsatd. heterocyclyl; R2 = H, alkyl,

alkenyl, alkynyl, aromatic group, heterocyclyl; R3 = alkyl, alkenyl, alkynyl, aromatic group, alkoxy, aryloxy, heterocyclyloxy, NR4R5; R4-5 = H, alkyl, alkenyl, alkynyl, aromatic group, heterocyclyl; X = group releasable on reaction with oxidized developer], and an acylacetoanilide type coupler containing a group II [R1 = monovalent group; Q = nonmetallic atoms required to complete a 3- to 5-membered ring].

L9 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:222730 HCAPLUS
DOCUMENT NUMBER: 118:222730
ORIGINAL REFERENCE NO.: 118:38233a,38236a
TITLE: Silver halide color photographic material
INVENTOR(S): Obayashi, Keiji; Saito, Naoki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 60 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04133052	A	19920507	JP 1990-254727	19900925 <--

PRIORITY APPLN. INFO.: JP 1990-254727 19900925
GI



I

AB The title material which comprises a support having thereon one or more blue-sensitive silver halide emulsion layers, one or more green-sensitive silver halide emulsion layers, and one or more red-sensitive silver halide emulsion layers contains a yellow coupler represented by general structure I. For I, R1 = nonmetallic atoms for forming, together with N:CNR2, a 5-membered unsatd. heterocyclic ring; R2 = H, alkyl, alkenyl, alkynyl, etc.; R3 = alkyl, alkenyl, alkynyl, alkoxy, etc.; X = a group to be released upon reaction with an oxidized aromatic primary amine developing agent. The title material gives excellent color reproduction

L9 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:157655 HCAPLUS
DOCUMENT NUMBER: 118:157655
ORIGINAL REFERENCE NO.: 118:26859a,26862a
TITLE: Novel yellow coupler containing silver halide color photographic material
INVENTOR(S): Saito, Naoki; Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Shashin Film K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04085537	A	19920318	JP 1990-201845	19900730 <--
JP 2964011	B2	19991018		
US 5187056	A	19930216	US 1991-737274	19910729 <--

PRIORITY APPLN. INFO.: JP 1990-201845 A 19900730
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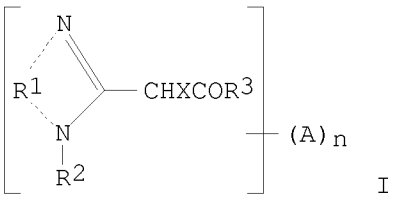


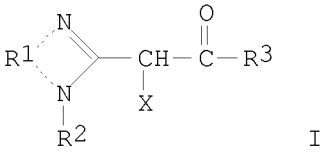
I

AB The title color photog. material contains in ≥1 of its hydrophilic colloid layers (I) [R1 = atoms required to complete an unsatd. heterocycle; R2 = H, aliphatic, aromatic, or heterocyclic ring; R3 = organic residue; X = group releasable on reacting with oxidized primary aromatic amine-type developer; A = acidic release group substitutable at random; n ≥ 1; when A is a substituent on X, X released on reaction with the oxidized developer does not react further with the oxidized developer. Color image sharpness and color reproducibility are improved, high sensitivity is achieved, and color image stability is also achieved.

L9 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:136082 HCAPLUS
DOCUMENT NUMBER: 118:136082
ORIGINAL REFERENCE NO.: 118:23285a,23288a
TITLE: Silver halide color photographic material containing novel yellow coupler
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04172446	A	19920619	JP 1990-300304	19901106 <--

PRIORITY APPLN. INFO.: JP 1990-300304 19901106
GI



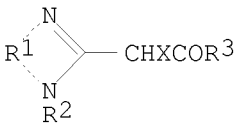
I

AB A Ag halide color photog. material comprises a yellow coupler I [R1 = non-metallic atomic group forming 5-membered unsatd. heterocyclyl with N:C-NR2; R2 = H, alkyl, alkenyl, alkynyl, aromatic, heterocyclyl; R3 = alkyl, alkenyl, alkynyl, aromatic, alkoxy, aryloxy, heterocyclyloxy, NR4R5; R4,5 = H, alkyl, alkenyl, alkynyl, aromatic, heterocyclyl; X = moiety released upon reaction with oxidation product of aromatic primary amine developing agent] and a compound or its precursor capable of scavenging an oxidation product of a development agent.

L9 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:136071 HCAPLUS
DOCUMENT NUMBER: 118:136071
ORIGINAL REFERENCE NO.: 118:23281a,23284a
TITLE: Silver halide color photographic material
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04163546	A	19920609	JP 1990-291394	19901029 <--

PRIORITY APPLN. INFO.: JP 1990-291394 19901029
GI



I

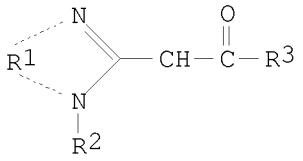
AB The title material which comprises a support having thereon one or more photosensitive silver halide emulsion layers contains a coupler represented by I and a pyrazolotriazole coupler. For I, R1 = nonmetallic atoms which, together with N:CNR2, form a 5-membered unsatd. heterocyclic ring; R2 = H, alkyl, alkenyl, alkynyl, etc.; R3 = alkyl, alkenyl, alkynyl, alkoxy, etc.; X = a group to be released upon reaction with an oxidized aromatic primary amine developing agent. The use of the title material gives high-quality images.

L9 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:136061 HCAPLUS

DOCUMENT NUMBER: 118:136061
ORIGINAL REFERENCE NO.: 118:23281a,23284a
TITLE: Silver halide color photographic material with high sensitivity and excellent graniness
INVENTOR(S): Obayashi, Keiji; Saito, Naoki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04121737	A	19920422	JP 1990-242217	19900912 <--

PRIORITY APPLN. INFO.: JP 1990-242217 19900912
GI



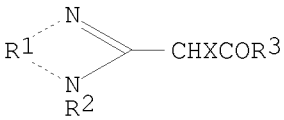
I

AB In a Ag halide color photog. material having ≥1 photosensitive emulsion layer on a support, the material is characterized in that the material contains a (yellow) coupler I [R1 = nonmetal atomic group forming 5-membered unsatd. heterocyclyl with N:C(NR2); R2 = H, alkyl, alkenyl, alkynyl, aromatic, alkoxy, aryl, oxy, heterocyclyloxy, NR4R5; R4,5 = H, alkyl, alkenyl, alkynyl, aromatic, heterocyclyl; X = moiety released during reaction with an oxidized product of aromatic primary amine developing agent] and the emulsion layer(s) contains sheet-structure AgBrI with a AgI content of 15-45 mol% and chemical-sensitized Ag halide grains with a AgI content ≥7 mol%.

L9 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:90699 HCAPLUS
DOCUMENT NUMBER: 118:90699
ORIGINAL REFERENCE NO.: 118:15727a,15730a
TITLE: Silver halide color photographic material
INVENTOR(S): Obayashi, Keiji; Saito, Naoki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04163547	A	19920609	JP 1990-291395	19901029 <--

PRIORITY APPLN. INFO.: JP 1990-291395 19901029
GI



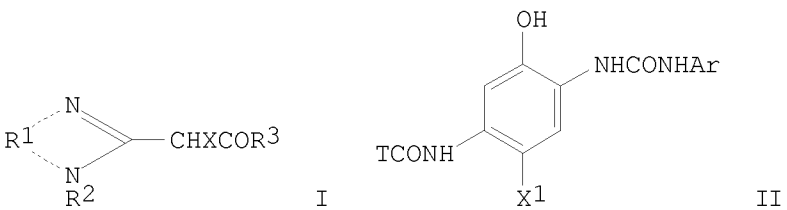
I

AB In the title material comprising a support having thereon one or more Ag halide emulsion layers, at least 50% of the total projection area of Ag halide grains of the emulsion layers belongs to tabular grains with an average aspect ratio ≥2:1. At least one of the Ag halide emulsion layers in the title material contains a coupler represented by I (R1 = nonmetallic atoms which, together with the NCNR2 moiety, form a 5-membered unsatd. heterocyclic ring; R2 = H, alkyl, alkenyl, alkynyl, etc.; R3 = alkyl, alkenyl, alkoxy, etc.; X = a group to be released at the time of reaction with an oxidized aromatic primary amine developing agent). The title material gives excellent color reproduction

L9 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:90695 HCAPLUS
DOCUMENT NUMBER: 118:90695
ORIGINAL REFERENCE NO.: 118:15727a,15730a
TITLE: Silver halide color photographic material
INVENTOR(S): Obayashi, Keiji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04156540	A	19920529	JP 1990-282512	19901019 <--

PRIORITY APPLN. INFO.: JP 1990-282512 19901019
GI



I II

AB The title material which comprises a support having thereon one or more photosensitive Ag halide emulsion layers contains a coupler represented by I (R1 = nonmetallic atoms which, together with N:CNR2, form a 5-membered unsatd. heterocyclic ring; R2 = H, alkyl, alkenyl, etc.; R3 = alkyl,

alkenyl, alkynyl, etc.; X = a group to be released at the time of reaction with an oxidized aromatic primary amine developing agent) and a coupler represented by II (T = an aliphatic group, an aromatic group, heterocyclyl; Ar = an aromatic group; X1 = H, a group to be released upon coupling reaction with an oxidized aromatic primary amine developing agent). The title material also contains a mercaptoheterocyclic compound, a benzimidazole derivative, and a phenolic compound The title material gives high-quality images.

L9 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1972:419030 HCAPLUS
DOCUMENT NUMBER: 77:19030
ORIGINAL REFERENCE NO.: 77:3193a,3196a
TITLE: Benzo[1,2-d:3,4-d']diimidazole derivatives. II. Behavior of 3,6-dimethyl- and 3,6,7-trimethylbenzo[1,2-d:3,4-d']diimidazole toward nucleophilic agents
AUTHOR(S): Koshienko, Yu. V.; Simonov, A. M.; Pozharskii, A. F.
CORPORATE SOURCE: Rostov.-na-Donu Gos. Univ., Rostov-on-Don, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1971), 7(8), 1132-5
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB MO-calcn. revealed that a lower electron d. at C-2 and C-7 of 3,6-dimethylbenzo[1,2-d:3,4-d']-diimidazole (I, R = R1 = H) facilitated nucleophilic substitution at these positions. I and KOH (300-10°) yield a mixture of 46% I (R1 = OH, R = H) and 35% I (R1 = R = OH). Analogously the corresponding 3,6,7-tri-Me derivative I (R = Me, R1 = OH) (II) was hydroxylated at C-2. The hydroxy derivs. reacted via the tautomeric oxo-forms. II was prepared from the benzimidazole deriv, (III, R1 = H) and urea (30 min at 160°). Amination of I or II did not occur with NaNH2. The 2-amino derivative I (R = H, R1 = NH2) was prepared from III (R1 = NH2) using the cyclization with BrCN.

=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	163.44	538.78

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-18.04	-18.04

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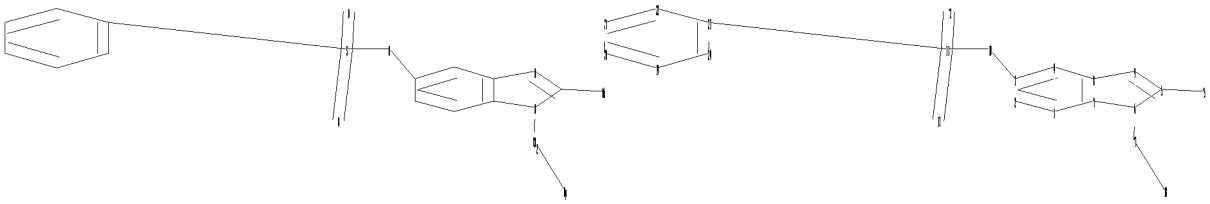

chain nodes :
10 11 12 13 15 17 18
ring nodes :
1 2 3 4 5 6 7 8 9 19 20 21 22 23 24
chain bonds :
3-10 5-15 6-17 10-11 11-12 11-13 11-23 17-18
ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9 19-20 19-24 20-21 21-22 22-23 23-24
exact/norm bonds :
3-10 5-6 5-9 5-15 6-7 8-9 10-11 11-12 11-13 11-23 17-18
exact bonds :
6-17
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8 19-20 19-24 20-21 21-22 22-23 23-24
isolated ring systems :
containing 1 :

G1:Ph,Cy,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS 11:CLASS 12:CLASS 13:CLASS 15:CLASS 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom

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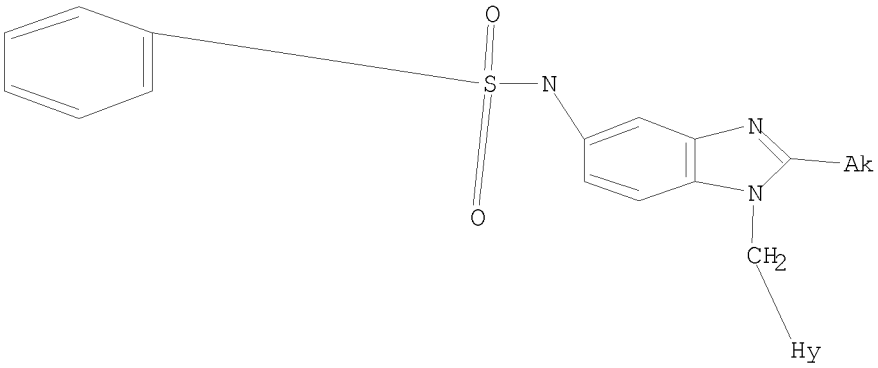

G1 Ph,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

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SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2442 TO 3958
PROJECTED ANSWERS: 119 TO 641

L12 19 SEA SSS SAM L11

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FULL SCREEN SEARCH COMPLETED - 2632 TO ITERATE

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SEARCH TIME: 00.00.01

L13 243 SEA SSS FUL L11

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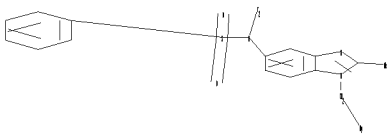

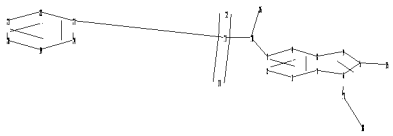

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ring nodes :
1 2 3 4 5 6 7 8 9 19 20 21 22 23 24
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3-10 5-15 6-17 10-11 10-26 11-12 11-13 11-23 17-18
ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9 19-20 19-24 20-21 21-22 22-23
23-24
exact/norm bonds :
3-10 5-6 5-9 5-15 6-7 8-9 10-11 10-26 11-12 11-13 11-23 17-18
exact bonds :
6-17
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8 19-20 19-24 20-21 21-22 22-23 23-24
isolated ring systems :
containing 1 : 19 :

G1:Ph,Cy,Hy

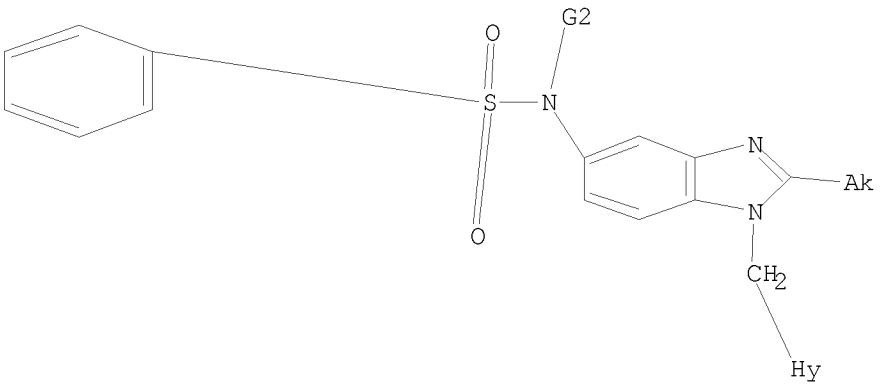
G2:Cb,Ak,H

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS 15:CLASS 17:CLASS 18:Atom 19:Atom 20:Atom
21:Atom 22:Atom 23:Atom 24:Atom 26:CLASS

L14 STRUCTURE UPLOADED

=> d l14

L14 HAS NO ANSWERS
L14 STR



G1 Ph,Cy,Hy
G2 Cb,Ak,H

Structure attributes must be viewed using STN Express query preparation.

=> s l14
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SAMPLE SCREEN SEARCH COMPLETED - 160 TO ITERATE

100.0% PROCESSED 160 ITERATIONS 19 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2442 TO 3958
PROJECTED ANSWERS: 119 TO 641

L15 19 SEA SSS SAM L14

=> s l14 sss full
FULL SEARCH INITIATED 15:53:48 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2632 TO ITERATE

100.0% PROCESSED 2632 ITERATIONS 243 ANSWERS
SEARCH TIME: 00.00.01

L16 243 SEA SSS FUL L14

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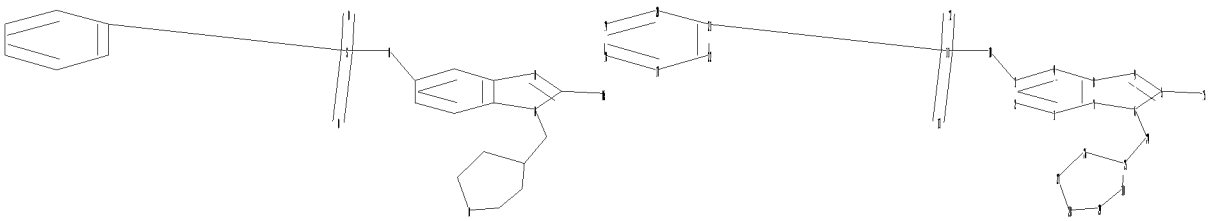

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10 11 12 13 15 24
ring nodes :
1 2 3 4 5 6 7 8 9 17 18 19 20 21 22 25 26 27 28 29 30
chain bonds :
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ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9 17-18 17-22 18-19 19-20 20-21
21-22 25-26 25-30 26-27 27-28 28-29 29-30
exact/norm bonds :
3-10 5-6 5-9 5-15 6-7 6-24 8-9 10-11 11-12 11-13 11-21
exact bonds :
24-25 25-26 25-30 26-27 27-28 28-29 29-30
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8 17-18 17-22 18-19 19-20 20-21 21-22
isolated ring systems :
containing 1 : 17 : 25 :

G1:Ph,Cy,Hy

G2:Cb,Ak,H

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS 15:CLASS 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom
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L17 STRUCTURE UPLOADED

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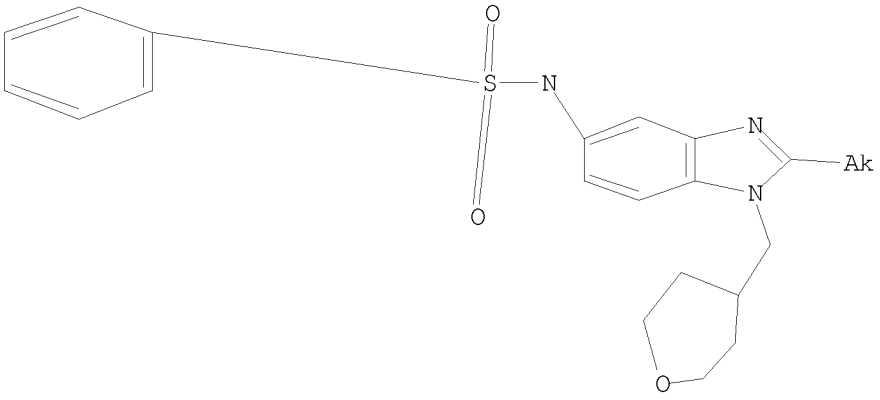
L17 HAS NO ANSWERS
L17 STR



G1 Ph,Cy,Hy

G2 Cb,Ak,H

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED -      120 TO ITERATE

100.0% PROCESSED      120 ITERATIONS                                19 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
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PROJECTED ITERATIONS:         1743 TO     3057
PROJECTED ANSWERS:             119 TO      641

L18          19 SEA SSS SAM L17

=> s l17 sss full
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SEARCH TIME: 00.00.01

L19         225 SEA SSS FUL L17

=> FIL HCAPLUS
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   562.92    1101.70

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -18.04

FILE 'HCAPLUS' ENTERED AT 15:57:54 ON 26 MAY 2009
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FILE COVERS 1907 - 26 May 2009 VOL 150 ISS 22
FILE LAST UPDATED: 25 May 2009 (20090525/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

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(FILE 'HOME' ENTERED AT 15:29:23 ON 26 MAY 2009)

FILE 'REGISTRY' ENTERED AT 15:29:38 ON 26 MAY 2009
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L10 1 S L8 AND PY<=2003

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L17 STRUCTURE UPLOADED
L18 19 S L17

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=> s l19
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L23           0 L21 AND PY<=2003

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L22  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2001:224232  HCAPLUS
DOCUMENT NUMBER:          134:266307
TITLE:                    Preparation of
                          2-arylethyl-5-arylsulfonamidobenzimidazoles as
                          tryptase inhibitors.
INVENTOR(S):              Anderskewitz, Ralf; Braun, Christine; Briem, Hans;
                          Disse, Bernd; Hoenke, Christoph; Jennewein, Hans
                          Michael; Speck, Georg
PATENT ASSIGNEE(S):       Boehringer Ingelheim Pharma K.-G., Germany
SOURCE:                   Ger. Offen., 36 pp.
                          CODEN: GWXXBX
DOCUMENT TYPE:            Patent
LANGUAGE:                 German
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
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     DE 19945787           A1    20010329    DE 1999-19945787        19990924 <--
     CA 2379557            A1    20010405    CA 2000-2379557         20000921 <--
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     EP 1220844            A1    20020710    EP 2000-960686          20000921 <--
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     MX 2002002622         A     20021024    MX 2002-2622            20020301 <--
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PRIORITY APPLN. INFO.: DE 1999-19945787 A 19990924
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OTHER SOURCE(S): MARPAT 134:266307

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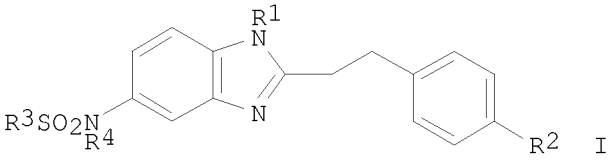


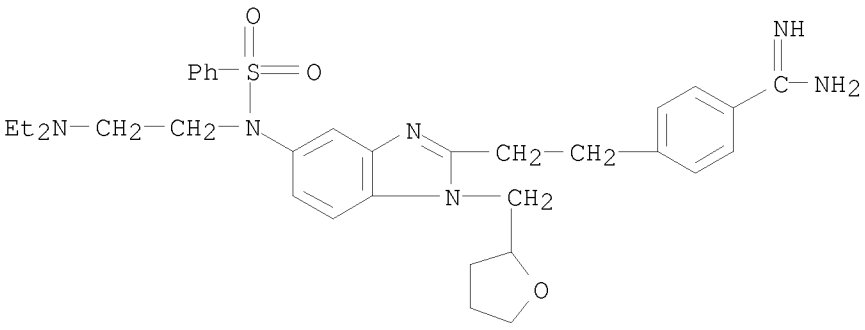
I

AB Title compds. [I; R1 = (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, phenylalkyl, heterocyclyl, heterocyclylalkyl; R2 = C(:NH)NH2, CH2NH2; R3 = Ph, PhCH2, naphthyl, furyl, benzofuryl, thienyl, benzothienyl; R4 = H, (substituted) alkyl, heterocyclyl, heterocyclylalkyl, etc.], were prepared Thus, N-[3-amino-4-(3,5-bistifluoromethylbenzylamino)phenyl]benzenesulfonamide (preparation given), p-cyanophenylpropionic acid, and POCl3 were heated together for 2 h at 100-120° to give 71.5% N-[2-[2-(4-cyanophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. This was stirred with HCl in EtOH at 0-5° and the residue after distillation of EtOH was treated with NH3 in EtOH to give 70.3% N-[2-[2-(4-amidinophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. I inhibited tryptase with IC50 = 0.0066-0.412 μM.

IT 331766-41-7P 331766-46-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of arylethylarylsulfonamidobenzimidazoles as tryptase inhibitors)

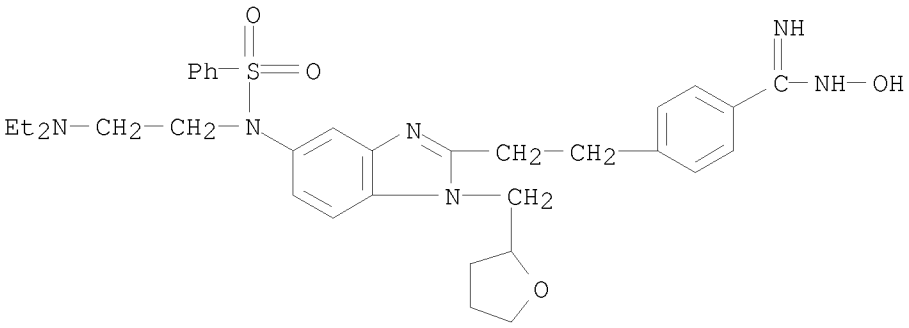
RN 331766-41-7 HCAPLUS

CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]- (CA INDEX NAME)



RN 331766-46-2 HCAPLUS

CN Benzenecarboximidamide, 4-[2-[5-[[2-(diethylamino)ethyl](phenylsulfonyl)amino]-1-[(tetrahydro-2-furanyl)methyl]-1H-benzimidazol-2-yl]ethyl]-N-hydroxy- (CA INDEX NAME)



=> d l20 ibib abs tot

L20 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295544 HCAPLUS
DOCUMENT NUMBER: 144:350681
TITLE: Benzimidazole derivatives, and their pharmaceutical compositions, preparation and their cannabinoid receptor binding affinity and use in therapy, such as pain management
INVENTOR(S): Liu, Ziping; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033629	A1	20060330	WO 2005-SE1401	20050922
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WO 2005030733 A1 20050407 WO 2004-GB4126 20040924
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EP 1797075 A1 20070620 EP 2005-784659 20050922
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CN 101027291 A 20070829 CN 2005-80032329 20050922
JP 2008514591 T 20080508 JP 2007-533431 20050922
IN 2007DN01630 A 20070803 IN 2007-DN1630 20070228

PRIORITY APPLN. INFO.: WO 2004-GB4112 A 20040924
WO 2004-GB4126 A 20040924
SE 2005-453 A 20050228
SE 2003-2570 A 20030926
SE 2003-2571 A 20030926
WO 2005-SE1401 W 20050922

OTHER SOURCE(S): MARPAT 144:350681

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Compds. of formula I, or pharmaceutically acceptable salts and compns., the preparation of these compds., and their cannabinoid (CB) receptor binding affinity are disclosed in this invention. These compds. are useful in therapy, in particular in the management of pain. Compds. of formula I wherein R1 is C1-6 alkyl or C3-6 cycloalkyl; R2 is H or Me; R3, R4, and R5 are independently F or Me; and their pharmaceutically acceptable salts, diastereoisomers, enantiomers, or mixts. thereof, and methods for their preparation are claimed in this invention. Example compound II was prepared by amidation of 4-fluoro-3-nitroaniline with acetic anhydride to give N-(4-fluoro-3-nitrophenyl)acetamide, which was reacted with 4-aminomethyltetrahydropyran to give N-{3-nitro-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide, which was reduced; the resulting N-{3-amino-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide underwent cyclization with trimethylacetyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-

benzimidazol-5-yl]acetamide, which was deacetylated to give the benzimidazol-5-amine derivative, which was sulfonylated with 4-nitrobenzenesulfonyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-nitrobenzenesulfonamide, which was reduced to N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-aminobenzenesulfonamide, which reacted with trimethylacetyl chloride to give compound II. All the invention compound were evaluated for their human CB1 and CB2 receptor binding affinity. From the hCB1 and hCB2 receptor binding assay, the Ki towards human CB1 receptors for certain invention compds. are in the range of between 2.8 nM and 1846 nM. EC50 for these compds. was found to be in the range of between 1.8 nM and 682 nM. Emax for these compound were determined to be in the range of between 78% and 157%.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295541 HCAPLUS
DOCUMENT NUMBER: 144:350678
TITLE: Preparation of benzimidazole derivatives for treatment of pain
INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
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WO 2005030762 A1 20050407 WO 2004-GB4132 20040924
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1797076 A1 20070620 EP 2005-786401 20050922
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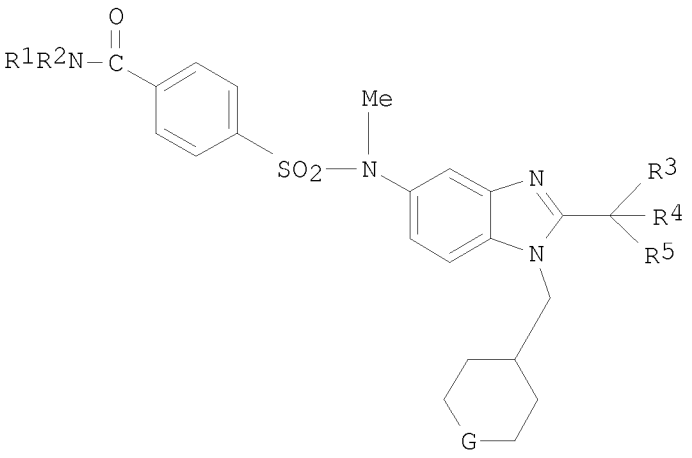
CN 101023075 A 20070822 CN 2005-80031827 20050922
JP 2008514590 T 20080508 JP 2007-533430 20050922
IN 2007DN01629 A 20070803 IN 2007-DN1629 20070228
PRIORITY APPLN. INFO.: WO 2004-GB4112 A 20040924
WO 2004-GB4132 A 20040924
US 2004-640498P P 20041230
SE 2003-2570 A 20030926
SE 2003-2572 A 20030926
WO 2005-SE1400 W 20050922
OTHER SOURCE(S): MARPAT 144:350678
GI



I

AB Benzimidazoles I (G = O, Cf2; R1, R2 = H, OH, alkyl, alkoxy, hydroxyalkyl; R3,R4, R5 = F, Me) and their pharmaceutically acceptable salts are prepared They are useful in therapy, in particular in the management of pain. Thus, reaction of 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl](methyl)amino]sulfonyl}benzoic acid with ethanolamine in DMF in the presence of diisopropylethylamine at room temperature for 3 h gave 62% 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl](methyl)amino]sulfonyl}-N-(2-hydroxyethyl)benzamide as trifluoroacetate salt.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295540 HCAPLUS
DOCUMENT NUMBER: 144:350677
TITLE: Preparation of benzimidazole derivatives as cannabinoid receptor ligands
INVENTOR(S): Liu, Ziping; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033632	A1	20060330	WO 2005-SE1404	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
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WO 2005030733	A1	20050407	WO 2004-GB4126	20040924
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EP 1794150	A1	20070613	EP 2005-786524		20050922
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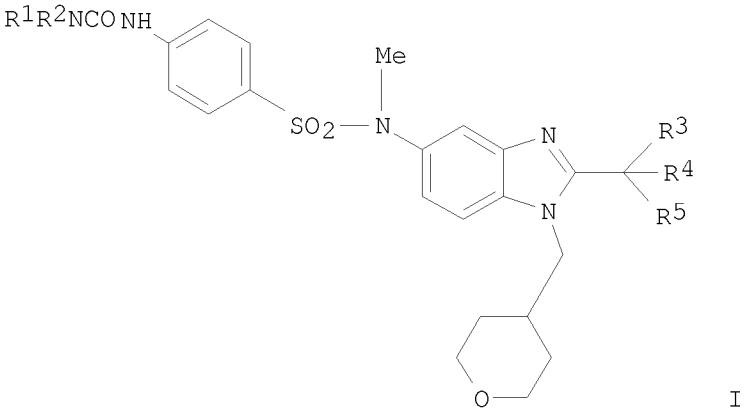
CN 101052637	A	20071010	CN 2005-80031826		20050922
JP 2008514594	T	20080508	JP 2007-533434		20050922
IN 2007DN01631	A	20070803	IN 2007-DN1631		20070228
PRIORITY APPLN. INFO.:			WO 2004-GB4112	A	20040924
			WO 2004-GB4126	A	20040924
			US 2004-640309P	P	20041230
			SE 2003-2570	A	20030926
			SE 2003-2571	A	20030926
			WO 2004-GB4116	A	20040924
			WO 2005-SE1404	W	20050922

OTHER SOURCE(S): MARPAT 144:350677

GI



I

AB Benzimidazoles I (R1, R2 = H, alkyl, alkoxy, hydroxyalkyl; R3, R4, R5 = F, Me) and their pharmaceutically acceptable salts are prepared compds. are prepared They are useful in therapy, in particular in the management of pain. Thus, reaction of 2-tert-butyl-N-methyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-amine with 4-ureidobenzenesulfonyl chloride in DMF in the presence of p-dimethylaminopyridine at room temperature for 4 h gave 39% 4-[(aminocarbonyl)amino]-N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-N-methylbenzenesulfonamide as trifluoroacetate salt.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:295538 HCAPLUS

DOCUMENT NUMBER: 144:350675

TITLE: Benzimidazole derivatives, and their pharmaceutical compositions, preparation and their cannabinoid receptor binding affinity and use in therapy, such as pain management

INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Milburn, Claire; Walpole, Christopher; Yang, Hua

PATENT ASSIGNEE(S): AstraZeneca AB, Swed.

SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033627	A1	20060330	WO 2005-SE1399	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
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EP 1797074	A1	20070620	EP 2005-784565	20050922
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CN 101027292	A	20070829	CN 2005-80032338	20050922
JP 2008514589	T	20080508	JP 2007-533429	20050922
IN 2007DN01720	A	20070824	IN 2007-DN1720	20070305

PRIORITY APPLN. INFO.:
WO 2004-GB4112 A 20040924
SE 2005-267 A 20050203
SE 2003-2570 A 20030926
WO 2005-SE1399 W 20050922

OTHER SOURCE(S): MARPAT 144:350675
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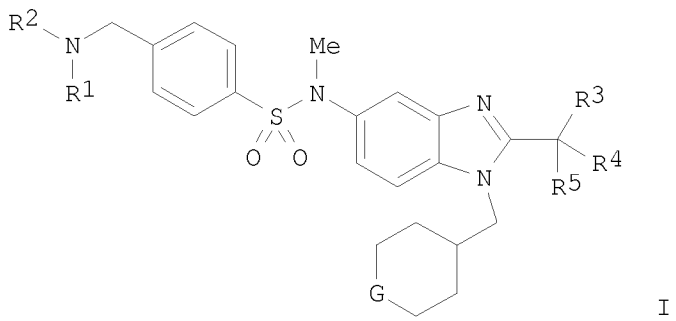

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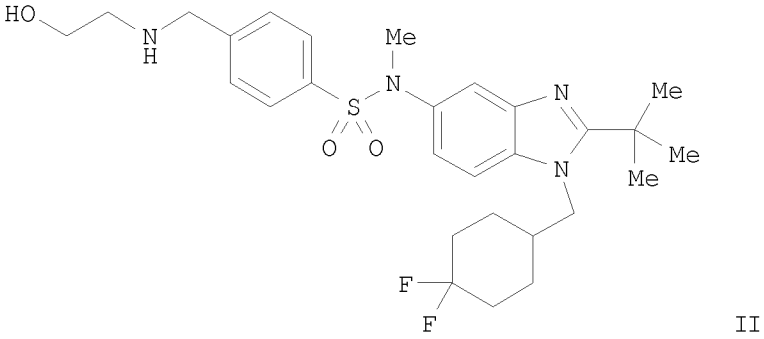

II

AB Compds. of formula I, or pharmaceutically acceptable salts and compns., the preparation of these compds., and their cannabinoid (CB) receptor binding affinity are disclosed in this invention. These compds. are useful in therapy, in particular in the management of pain. Compds. of formula I where in G is O and CF2; R1 and R2 are independently H, C1-4 alkyl, HO-C1-4 alkyl, C1-4 alkoxy-C1-4 alkyl, or C1-4 alkoxy; R1R2 together with the N to which they are bound may form a C3-6 heterocycle; R3, R4, and R5 are independently F or Me; and their pharmaceutically acceptable salts, diastereoisomers, enantiomers, or mixts. thereof, and methods for preparation are claimed in this invention. Example compound II was prepared by amidation of 4-fluoro-3-nitroaniline with acetic anhydride followed by to give N-(4-fluoro-3-nitrophenyl)-N-methyl-acetamide, which underwent amination with (4,4-difluorocyclohexylmethyl)amine TFA salt to give N-(4-{[(4,4-difluorocyclohexyl)methyl]amino}-3-nitrophenyl)-N-methyl-acetamide, which was reduced at the nitro group to give the corresponding amine, which cyclized with trimethylacetyl chloride; the resulting N-{2-tert-butyl-1-[(4,4-difluorocyclohexyl)methyl]-1H-benzimidazol-5-yl}-N-methyl-acetamide was deacetylated to give N-{2-tert-butyl-1-[(4,4-difluorocyclohexyl)methyl]}-N-methyl-1H-benzimidazol-5-amine, which underwent sulfonylation with 4-formylbenzenesulfonyl chloride to give the corresponding 4-formylphenylsulfonamide, which underwent reductive amination with 2-aminoethanol to give compound II. All the invention compound were evaluated for their human CB1 and CB2 receptor binding affinity. From the hCB1 and hCB2 receptor binding assay, the Ki towards human CB1 receptors for certain invention compds. are in the range of between 9 nM and 1175 nM. EC50 for these compds. was found to be in the range of between 12 nM and

49 nM. Emax for these compound were determined to be in the range of between 109% and 143%.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:300439 HCAPLUS
DOCUMENT NUMBER: 142:373834
TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain
INVENTOR(S): Liu, Ziping; Milburn, Claire; Page, Daniel; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.; AstraZeneca UK Ltd.
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030762	A1	20050407	WO 2004-GB4132	20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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EP 1670790	A1	20060621	EP 2004-768675	20040924
EP 1670790	B1	20080820		
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JP 2007506724	T	20070322	JP 2006-527493	20040924
AT 405559	T	20080915	AT 2004-768675	20040924
ES 2310752	T3	20090116	ES 2004-768675	20040924
WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
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CN 101023075	A	20070822	CN 2005-80031827		20050922
JP 2008514590	T	20080508	JP 2007-533430		20050922
US 20080221178	A1	20080911	US 2008-572825		20080311
PRIORITY APPLN. INFO.:			SE 2003-2572	A	20030926
			WO 2004-GB4112	A	20040924
			WO 2004-GB4132	W	20040924
			US 2004-640498P	P	20041230
			WO 2005-SE1400	W	20050922

OTHER SOURCE(S): CASREACT 142:373834; MARPAT 142:373834

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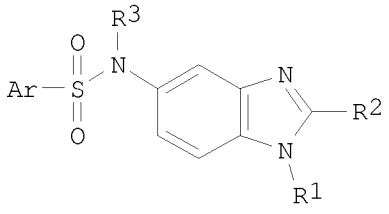

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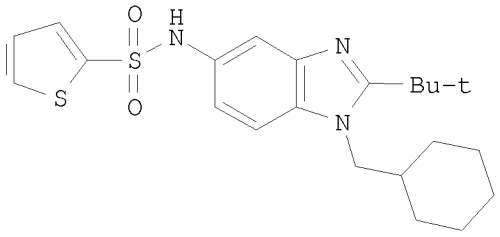

II

AB The title compds. I [R1 = alkyl, alkenyl, cycloalkyl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; R3 = H, alkyl, cycloalkyl, etc.; Ar = (un)substituted aryl, heteroaryl], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from 4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 1.7-5000 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.5-22.2 nM. The pharmaceutical composition comprising the compound I is disclosed.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:300438 HCAPLUS

DOCUMENT NUMBER: 142:373833

TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain

INVENTOR(S): Liu, Ziping; Milburn, Claire; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua

PATENT ASSIGNEE(S): Astrazeneca AB, Swed.; Astrazeneca UK Ltd.

SOURCE: PCT Int. Appl., 254 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1673369	A1	20060628	EP 2004-768655	20040924
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JP 2007506718	T	20070322	JP 2006-527485	20040924
AU 2005287429	A1	20060330	AU 2005-287429	20050922
CA 2582512	A1	20060330	CA 2005-2582512	20050922
WO 2006033627	A1	20060330	WO 2005-SE1399	20050922
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WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
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WO 2006033629	A1	20060330	WO 2005-SE1401	20050922
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WO 2006033632 A1 20060330 WO 2005-SE1404 20050922

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WO 2006033633 A1 20060330 WO 2005-SE1405 20050922

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EP 1794150 A1 20070613 EP 2005-786524 20050922

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EP 1797074 A1 20070620 EP 2005-784565 20050922

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EP 1797075 A1 20070620 EP 2005-784659 20050922

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EP 1797070 A1 20070620 EP 2005-784958 20050922

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EP 1797076 A1 20070620 EP 2005-786401 20050922

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CN 101023075 A 20070822 CN 2005-80031827 20050922

CN 101027291 A 20070829 CN 2005-80032329 20050922

CN 101027292 A 20070829 CN 2005-80032338 20050922

CN 101052637 A 20071010 CN 2005-80031826 20050922

CN 101065375 A 20071031 CN 2005-80040240 20050922

JP 2008514589 T 20080508 JP 2007-533429 20050922

JP 2008514590 T 20080508 JP 2007-533430 20050922

JP 2008514591 T 20080508 JP 2007-533431 20050922

JP 2008514594 T 20080508 JP 2007-533434 20050922

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BR 2005015876 A 20080812 BR 2005-15876 20050922

US 20070072853	A1	20070329	US 2006-572826		20061016
IN 2007DN01629	A	20070803	IN 2007-DN1629		20070228
IN 2007DN01630	A	20070803	IN 2007-DN1630		20070228
IN 2007DN01631	A	20070803	IN 2007-DN1631		20070228
IN 2007DN01720	A	20070824	IN 2007-DN1720		20070305
MX 2007003121	A	20070718	MX 2007-3121		20070315
KR 2007057856	A	20070607	KR 2007-706690		20070323
NO 2007002090	A	20070625	NO 2007-2090		20070423
PRIORITY APPLN. INFO.:			SE 2003-2570	A	20030926
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			WO 2004-GB4116	A	20040924
			WO 2004-GB4124	A	20040924
			WO 2004-GB4126	A	20040924
			WO 2004-GB4132	A	20040924
			US 2004-640309P	P	20041230
			US 2004-640498P	P	20041230
			SE 2005-183	A	20050124
			SE 2005-267	A	20050203
			SE 2005-453	A	20050228
			WO 2005-SE1399	W	20050922
			WO 2005-SE1400	W	20050922
			WO 2005-SE1401	W	20050922
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			WO 2005-SE1405	W	20050922

OTHER SOURCE(S): CASREACT 142:373833; MARPAT 142:373833

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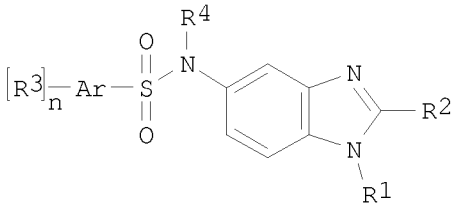

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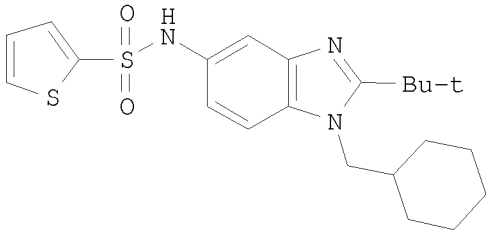

II

AB The title compds. I [R1 = alkyl, alkenyl, aryl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; Ar = aryl, heteroaryl; n = 0-3; R3 = H, NO2, halo, etc.; R4 = H, alkyl, cycloalkyl, etc.], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from 4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 0.7-7170 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.3-5800 nM. The pharmaceutical

composition comprising the compound I is disclosed.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:300416 HCAPLUS
DOCUMENT NUMBER: 142:373832
TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain
INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.; AstraZeneca UK Ltd.
SOURCE: PCT Int. Appl., 178 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030733	A1	20050407	WO 2004-GB4126	20040924
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EP 1670770	B1	20080820		
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JP 2007506722	T	20070322	JP 2006-527491	20040924
AT 405552	T	20080915	AT 2004-768669	20040924
ES 2310751	T3	20090116	ES 2004-768669	20040924
WO 2006033629	A1	20060330	WO 2005-SE1401	20050922
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KG, KZ, MD, RU, TJ, TM

EP 1794150	A1	20070613	EP 2005-786524		20050922
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EP 1797075	A1	20070620	EP 2005-784659		20050922
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JP 2008514594	T	20080508	JP 2007-533434		20050922
US 20070082899	A1	20070412	US 2006-572929		20061226
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			WO 2004-GB4112	A	20040924
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			US 2004-640309P	P	20041230
			SE 2005-453	A	20050228
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OTHER SOURCE(S): CASREACT 142:373832; MARPAT 142:373832

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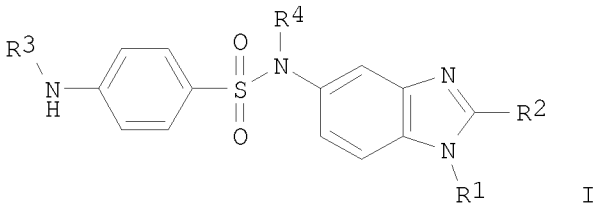

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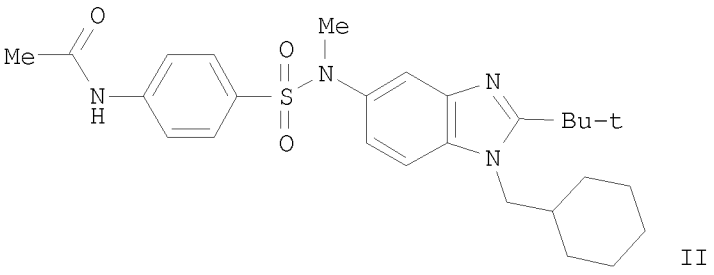

II

AB The title compds. I [R1 = alkyl, alkenyl, cycloalkyl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; R3 = H, alkyl, acyl, etc.; R4 = H, alkyl, cycloalkyl, etc.], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from

4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 0.72-7170 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.36-24.7 nM. The pharmaceutical composition comprising the compound I is disclosed.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:224232 HCAPLUS
DOCUMENT NUMBER: 134:266307
TITLE: Preparation of 2-arylethyl-5-arylsulfonamidobenzimidazoles as tryptase inhibitors.
INVENTOR(S): Anderskewitz, Ralf; Braun, Christine; Briem, Hans; Disse, Bernd; Hoenke, Christoph; Jennewein, Hans Michael; Speck, Georg
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19945787	A1	20010329	DE 1999-19945787	19990924
CA 2379557	A1	20010405	CA 2000-2379557	20000921
CA 2379557	C	20080916		
WO 2001023360	A1	20010405	WO 2000-EP9237	20000921
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6365584	B1	20020402	US 2000-666765	20000921
EP 1220844	A1	20020710	EP 2000-960686	20000921
EP 1220844	B1	20030409		
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JP 2003510310	T	20030318	JP 2001-526514	20000921
AT 236887	T	20030415	AT 2000-960686	20000921
ES 2192543	T3	20031016	ES 2000-960686	20000921
MX 2002002622	A	20021024	MX 2002-2622	20020301

PRIORITY APPLN. INFO.:	DE 1999-19945787	A	19990924
	US 1999-157278P	P	19991001
	WO 2000-EP9237	W	20000921

OTHER SOURCE(S): MARPAT 134:266307
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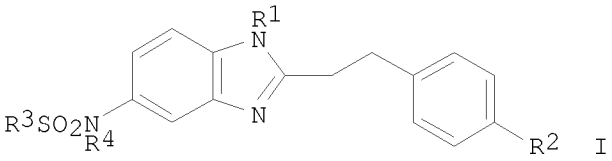

AB Title compds. [I; R1 = (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, phenylalkyl, heterocyclyl, heterocyclylalkyl; R2 = C(:NH)NH2, CH2NH2; R3 = Ph, PhCH2, naphthyl, furyl, benzofuryl, thienyl, benzothienyl; R4 = H, (substituted) alkyl, heterocyclyl, heterocyclylalkyl, etc.], were prepared Thus, N-[3-amino-4-(3,5-bistifluoromethylbenzylamino)phenyl]benzenesulfonamide (preparation given), p-cyanophenylpropionic acid, and POCl3 were heated together for 2 h at 100-120° to give 71.5% N-[2-[2-(4-cyanophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. This was stirred with HCl in EtOH at 0-5° and the residue after distillation of EtOH was treated with NH3 in EtOH to give 70.3% N-[2-[2-(4-amidinophenyl)ethyl]-1-(3,5-bistrifluoromethylbenzyl)benzimidazol-5-yl]benzenesulfonamide. I inhibited tryptase with IC50 = 0.0066-0.412 μM.

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L21 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295544 HCAPLUS
DOCUMENT NUMBER: 144:350681
TITLE: Benzimidazole derivatives, and their pharmaceutical compositions, preparation and their cannabinoid receptor binding affinity and use in therapy, such as pain management
INVENTOR(S): Liu, Ziping; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033629	A1	20060330	WO 2005-SE1401	20050922

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KG, KZ, MD, RU, TJ, TM

WO 2005030761 A1 20050407 WO 2004-GB4112 20040924
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LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

WO 2005030733 A1 20050407 WO 2004-GB4126 20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
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SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

EP 1797075 A1 20070620 EP 2005-784659 20050922
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

CN 101027291 A 20070829 CN 2005-80032329 20050922
JP 2008514591 T 20080508 JP 2007-533431 20050922
IN 2007DN01630 A 20070803 IN 2007-DN1630 20070228

PRIORITY APPLN. INFO.:
WO 2004-GB4112 A 20040924
WO 2004-GB4126 A 20040924
SE 2005-453 A 20050228
SE 2003-2570 A 20030926
SE 2003-2571 A 20030926
WO 2005-SE1401 W 20050922

OTHER SOURCE(S): MARPAT 144:350681

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Compds. of formula I, or pharmaceutically acceptable salts and compns., the preparation of these compds., and their cannabinoid (CB) receptor binding affinity are disclosed in this invention. These compds. are useful in therapy, in particular in the management of pain. Compds. of formula I wherein R1 is C1-6 alkyl or C3-6 cycloalkyl; R2 is H or Me; R3, R4, and R5 are independently F or Me; and their pharmaceutically acceptable salts, diastereoisomers, enantiomers, or mixts. thereof, and methods for their preparation are claimed in this invention. Example compound II was prepared by amidation of 4-fluoro-3-nitroaniline with acetic anhydride to give N-(4-fluoro-3-nitrophenyl)acetamide, which was reacted with

4-aminomethyltetrahydropyran to give N-{3-nitro-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide, which was reduced; the resulting N-{3-amino-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide underwent cyclization with trimethylacetyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]acetamide, which was deacetylated to give the benzimidazol-5-amine derivative, which was sulfonylated with 4-nitrobenzenesulfonyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-nitrobenzenesulfonamide, which was reduced to N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-aminobenzenesulfonamide, which reacted with trimethylacetyl chloride to give compound II. All the invention compound were evaluated for their human CB1 and CB2 receptor binding affinity. From the hCB1 and hCB2 receptor binding assay, the Ki towards human CB1 receptors for certain invention compds. are in the range of between 2.8 nM and 1846 nM. EC50 for these compds. was found to be in the range of between 1.8 nM and 682 nM. Emax for these compound were determined to be in the range of between 78% and 157%.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295541 HCAPLUS
DOCUMENT NUMBER: 144:350678
TITLE: Preparation of benzimidazole derivatives for treatment of pain
INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2005030762	A1	20050407	WO 2004-GB4132		20040924
EP 1797076	A1	20070620	EP 2005-786401		20050922
CN 101023075	A	20070822	CN 2005-80031827		20050922
JP 2008514590	T	20080508	JP 2007-533430		20050922
IN 2007DN01629	A	20070803	IN 2007-DN1629		20070228

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

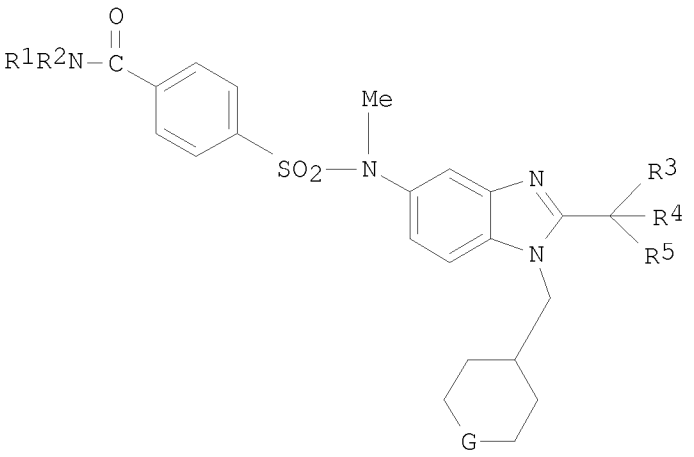
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.:

WO 2004-GB4112	A	20040924
WO 2004-GB4132	A	20040924
US 2004-640498P	P	20041230
SE 2003-2570	A	20030926
SE 2003-2572	A	20030926
WO 2005-SE1400	W	20050922

OTHER SOURCE(S): MARPAT 144:350678

GI



I

AB Benzimidazoles I (G = O, Cf2; R1, R2 = H, OH, alkyl, alkoxy, hydroxyalkyl; R3,R4, R5 = F, Me) and their pharmaceutically acceptable salts are prepared They are useful in therapy, in particular in the management of pain. Thus, reaction of 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-

benzimidazol-5-yl](methyl)amino]sulfonyl}benzoic acid with ethanolamine in DMF in the presence of diisopropylethylamine at room temperature for 3 h gave 62% 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl](methyl)amino]sulfonyl}-N-(2-hydroxyethyl)benzamide as trifluoroacetate salt.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295540 HCAPLUS
DOCUMENT NUMBER: 144:350677
TITLE: Preparation of benzimidazole derivatives as cannabinoid receptor ligands
INVENTOR(S): Liu, Ziping; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033632	A1	20060330	WO 2005-SE1404	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2005030733	A1	20050407	WO 2004-GB4126	20040924
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EP 1794150	A1	20070613	EP 2005-786524		20050922
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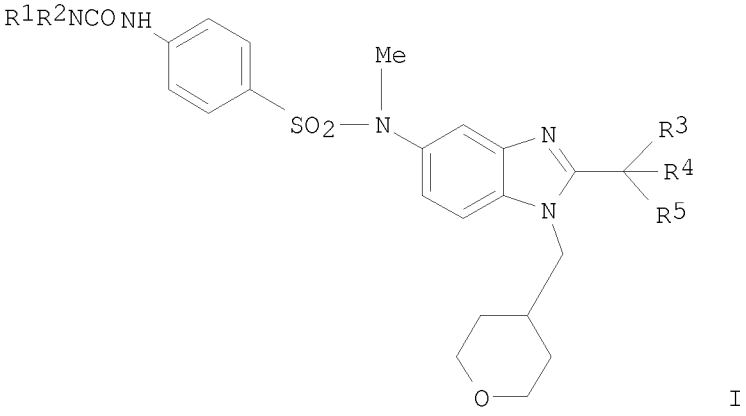
CN 101052637	A	20071010	CN 2005-80031826		20050922
JP 2008514594	T	20080508	JP 2007-533434		20050922
IN 2007DN01631	A	20070803	IN 2007-DN1631		20070228
PRIORITY APPLN. INFO.:			WO 2004-GB4112	A	20040924
			WO 2004-GB4126	A	20040924
			US 2004-640309P	P	20041230
			SE 2003-2570	A	20030926
			SE 2003-2571	A	20030926
			WO 2004-GB4116	A	20040924
			WO 2005-SE1404	W	20050922

OTHER SOURCE(S): MARPAT 144:350677

GI



I

AB Benzimidazoles I (R1, R2 = H, alkyl, alkoxy, hydroxyalkyl; R3, R4, R5 = F, Me) and their pharmaceutically acceptable salts are prepared compds. are prepared They are useful in therapy, in particular in the management of pain. Thus, reaction of 2-tert-butyl-N-methyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-amine with 4-ureidobenzenesulfonyl chloride in DMF in the presence of p-dimethylaminopyridine at room temperature for 4 h gave 39% 4-[(aminocarbonyl)amino]-N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-N-methylbenzenesulfonamide as trifluoroacetate salt.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295538 HCAPLUS
DOCUMENT NUMBER: 144:350675
TITLE: Benzimidazole derivatives, and their pharmaceutical compositions, preparation and their cannabinoid

receptor binding affinity and use in therapy, such as pain management

INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Milburn, Claire; Walpole, Christopher; Yang, Hua

PATENT ASSIGNEE(S): AstraZeneca AB, Swed.

SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033627	A1	20060330	WO 2005-SE1399	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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EP 1797074	A1	20070620	EP 2005-784565	20050922
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 101027292	A	20070829	CN 2005-80032338	20050922
JP 2008514589	T	20080508	JP 2007-533429	20050922
IN 2007DN01720	A	20070824	IN 2007-DN1720	20070305

PRIORITY APPLN. INFO.:

WO 2004-GB4112	A	20040924
SE 2005-267	A	20050203
SE 2003-2570	A	20030926
WO 2005-SE1399	W	20050922

OTHER SOURCE(S): MARPAT 144:350675

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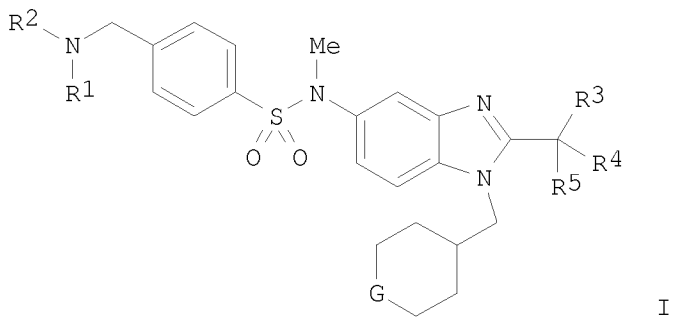

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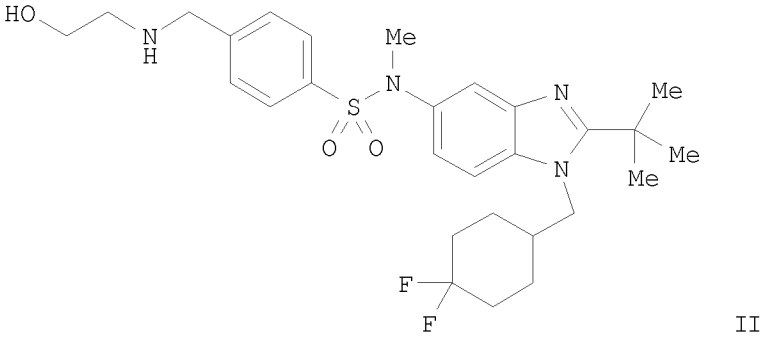

II

AB Compds. of formula I, or pharmaceutically acceptable salts and compns., the preparation of these compds., and their cannabinoid (CB) receptor binding affinity are disclosed in this invention. These compds. are useful in therapy, in particular in the management of pain. Compds. of formula I where in G is O and CF2; R1 and R2 are independently H, C1-4 alkyl, HO-C1-4 alkyl, C1-4 alkoxy-C1-4 alkyl, or C1-4 alkoxy; R1R2 together with the N to which they are bound may form a C3-6 heterocycle; R3, R4, and R5 are independently F or Me; and their pharmaceutically acceptable salts, diastereoisomers, enantiomers, or mixts. thereof, and methods for preparation are claimed in this invention. Example compound II was prepared by amidation of 4-fluoro-3-nitroaniline with acetic anhydride followed by to give N-(4-fluoro-3-nitrophenyl)-N-methyl-acetamide, which underwent amination with (4,4-difluorocyclohexylmethyl)amine TFA salt to give N-(4-{[(4,4-difluorocyclohexyl)methyl]amino}-3-nitrophenyl)-N-methyl-acetamide, which was reduced at the nitro group to give the corresponding amine, which cyclized with trimethylacetyl chloride; the resulting N-{2-tert-butyl-1-[(4,4-difluorocyclohexyl)methyl]-1H-benzimidazol-5-yl}-N-methyl-acetamide was deacetylated to give N-{2-tert-butyl-1-[(4,4-difluorocyclohexyl)methyl]}-N-methyl-1H-benzimidazol-5-amine, which underwent sulfonylation with 4-formylbenzenesulfonyl chloride to give the corresponding 4-formylphenylsulfonamide, which underwent reductive amination with 2-aminoethanol to give compound II. All the invention compound were evaluated for their human CB1 and CB2 receptor binding affinity. From the hCB1 and hCB2 receptor binding assay, the Ki towards human CB1 receptors for certain invention compds. are in the range of between 9 nM and 1175 nM. EC50 for these compds. was found to be in the range of between 12 nM and

49 nM. Emax for these compound were determined to be in the range of between 109% and 143%.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:300439 HCAPLUS
DOCUMENT NUMBER: 142:373834
TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain
INVENTOR(S): Liu, Ziping; Milburn, Claire; Page, Daniel; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.; AstraZeneca UK Ltd.
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030762	A1	20050407	WO 2004-GB4132	20040924
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AT 405559	T	20080915	AT 2004-768675	20040924
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WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
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EP 1797076	A1	20070620	EP 2005-786401	20050922
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JP 2008514590	T	20080508	JP 2007-533430		20050922
US 20080221178	A1	20080911	US 2008-572825		20080311
PRIORITY APPLN. INFO.:			SE 2003-2572	A	20030926
			WO 2004-GB4112	A	20040924
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OTHER SOURCE(S): CASREACT 142:373834; MARPAT 142:373834

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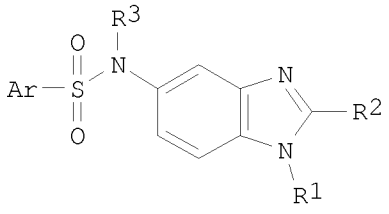

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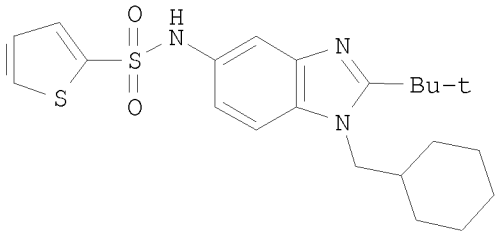

II

AB The title compds. I [R1 = alkyl, alkenyl, cycloalkyl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; R3 = H, alkyl, cycloalkyl, etc.; Ar = (un)substituted aryl, heteroaryl], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from 4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 1.7-5000 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.5-22.2 nM. The pharmaceutical composition comprising the compound I is disclosed.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:300438 HCAPLUS

DOCUMENT NUMBER: 142:373833

TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain

INVENTOR(S): Liu, Ziping; Milburn, Claire; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua

PATENT ASSIGNEE(S): Astrazeneca AB, Swed.; Astrazeneca UK Ltd.

SOURCE: PCT Int. Appl., 254 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
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AU 2005287429	A1	20060330	AU 2005-287429	20050922
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WO 2006033627	A1	20060330	WO 2005-SE1399	20050922
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WO 2006033632 A1 20060330 WO 2005-SE1404 20050922

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WO 2006033633 A1 20060330 WO 2005-SE1405 20050922

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EP 1794150 A1 20070613 EP 2005-786524 20050922

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EP 1797074 A1 20070620 EP 2005-784565 20050922

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EP 1797075 A1 20070620 EP 2005-784659 20050922

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EP 1797070 A1 20070620 EP 2005-784958 20050922

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EP 1797076 A1 20070620 EP 2005-786401 20050922

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CN 101023075 A 20070822 CN 2005-80031827 20050922

CN 101027291 A 20070829 CN 2005-80032329 20050922

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JP 2008514594 T 20080508 JP 2007-533434 20050922

JP 2008514595 T 20080508 JP 2007-533435 20050922

BR 2005015876 A 20080812 BR 2005-15876 20050922

US 20070072853	A1	20070329	US 2006-572826		20061016
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IN 2007DN01630	A	20070803	IN 2007-DN1630		20070228
IN 2007DN01631	A	20070803	IN 2007-DN1631		20070228
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			US 2004-640309P	P	20041230
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			SE 2005-183	A	20050124
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OTHER SOURCE(S): CASREACT 142:373833; MARPAT 142:373833

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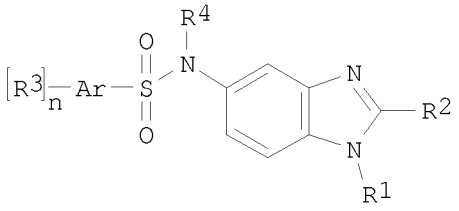

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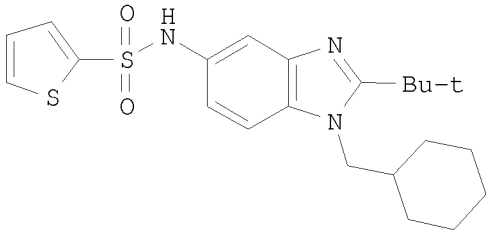

II

AB The title compds. I [R1 = alkyl, alkenyl, aryl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; Ar = aryl, heteroaryl; n = 0-3; R3 = H, NO2, halo, etc.; R4 = H, alkyl, cycloalkyl, etc.], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from 4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 0.7-7170 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.3-5800 nM. The pharmaceutical

composition comprising the compound I is disclosed.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:300416 HCAPLUS
DOCUMENT NUMBER: 142:373832
TITLE: Preparation of benzimidazoles as cannabinoid receptor modulators for use in the management of pain
INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.; AstraZeneca UK Ltd.
SOURCE: PCT Int. Appl., 178 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030733	A1	20050407	WO 2004-GB4126	20040924
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EP 1794150	A1	20070613	EP 2005-786524		20050922
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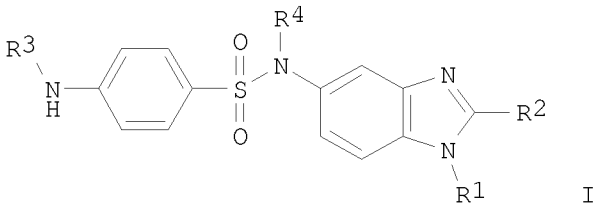
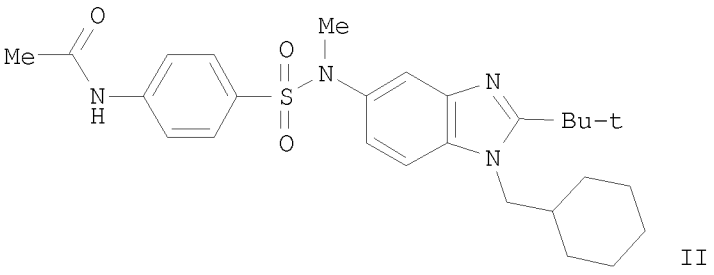
OTHER SOURCE(S): CASREACT 142:373832; MARPAT 142:373832

GI



I



II

AB The title compds. I [R1 = alkyl, alkenyl, cycloalkyl, etc.; R2 = alkyl, alkenyl, cycloalkyl, etc.; R3 = H, alkyl, acyl, etc.; R4 = H, alkyl, cycloalkyl, etc.], useful in therapy, in particular in the management of pain, were prepared E.g., a multi-step synthesis of II, starting from

4-fluoro-3-nitroaniline, was given. The Ki towards human CB1 receptors for most compds. I is measured to be in the range of 0.72-7170 nM. The Ki towards human CB2 receptors for most compds. I is measured to be in the range of about 0.36-24.7 nM. The pharmaceutical composition comprising the compound I is disclosed.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 15:29:23 ON 26 MAY 2009)

FILE 'REGISTRY' ENTERED AT 15:29:38 ON 26 MAY 2009
L1 STRUCTURE UPLOADED
L2 50 S L1
L3 1329 S L1 SSS FULL
L4 STRUCTURE UPLOADED
L5 34 S L4
L6 481 S L4 SSS FULL

FILE 'HCAPLUS' ENTERED AT 15:35:13 ON 26 MAY 2009
L7 39 S L3
L8 10 S L6
L9 21 S L7 AND PY<=2003
L10 1 S L8 AND PY<=2003

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L11 STRUCTURE UPLOADED
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L21 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295544 HCAPLUS
DOCUMENT NUMBER: 144:350681
TITLE: Benzimidazole derivatives, and their pharmaceutical compositions, preparation and their cannabinoid receptor binding affinity and use in therapy, such as pain management
INVENTOR(S): Liu, Ziping; Page, Daniel; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 66 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033629	A1	20060330	WO 2005-SE1401	20050922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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CN 101027291	A	20070829	CN 2005-80032329	20050922
JP 2008514591	T	20080508	JP 2007-533431	20050922
IN 2007DN01630	A	20070803	IN 2007-DN1630	20070228

PRIORITY APPLN. INFO.:

WO 2004-GB4112	A	20040924
WO 2004-GB4126	A	20040924
SE 2005-453	A	20050228
SE 2003-2570	A	20030926
SE 2003-2571	A	20030926
WO 2005-SE1401	W	20050922

OTHER SOURCE(S): MARPAT 144:350681
GI

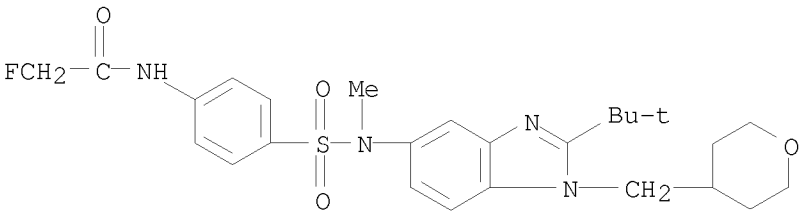
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Compds. of formula I, or pharmaceutically acceptable salts and compns., the preparation of these compds., and their cannabinoid (CB) receptor binding affinity are disclosed in this invention. These compds. are useful in therapy, in particular in the management of pain. Compds. of formula I wherein R1 is C1-6 alkyl or C3-6 cycloalkyl; R2 is H or Me; R3, R4, and R5 are independently F or Me; and their pharmaceutically acceptable salts, diastereoisomers, enantiomers, or mixts. thereof, and methods for their preparation are claimed in this invention. Example compound II was prepared by amidation of 4-fluoro-3-nitroaniline with acetic anhydride to give N-(4-fluoro-3-nitrophenyl)acetamide, which was reacted with 4-aminomethyltetrahydropyran to give N-{3-nitro-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide, which was reduced; the resulting N-{3-amino-4-[(tetrahydro-2H-pyran-4-ylmethyl)amino]phenyl}acetamide underwent cyclization with trimethylacetyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]acetamide, which was deacetylated to give the benzimidazol-5-amine derivative, which was sulfonylated with 4-nitrobenzenesulfonyl chloride to give N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-nitrobenzenesulfonamide, which was reduced to N-[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl]-4-aminobenzenesulfonamide, which reacted with trimethylacetyl chloride to give compound II. All the invention compound were evaluated for their human CB1 and CB2 receptor binding affinity. From the hCB1 and hCB2 receptor binding assay, the Ki towards human CB1 receptors for certain invention compds. are in the range of between 2.8 nM and 1846 nM. EC50 for these compds. was found to be in the range of between 1.8 nM and 682 nM. Emax for these compound were determined to be in the range of between 78% and 157%.

IT 881417-71-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate and intermediate; preparation of benzimidazole derivs. and their cannabinoid receptor binding affinity and use in therapy, such as pain management)

RN 881417-71-6 HCAPLUS

CN Acetamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-2-fluoro- (CA INDEX NAME)



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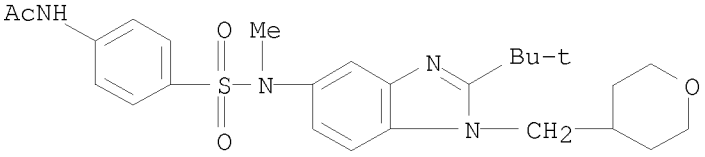
881417-78-3P 881417-79-4P 881417-80-7P
881417-81-8P 881417-82-9P 881417-83-0P
881417-84-1P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of benzimidazole derivs. and their cannabinoid receptor binding affinity and use in therapy, such as pain management)

RN 849349-15-1 HCAPLUS
CN Acetamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 849349-16-2 HCAPLUS
CN Acetamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

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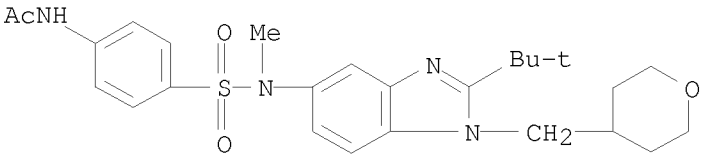
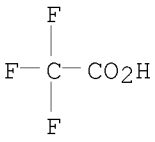
CRN 849349-15-1
CMF C26 H34 N4 O4 S

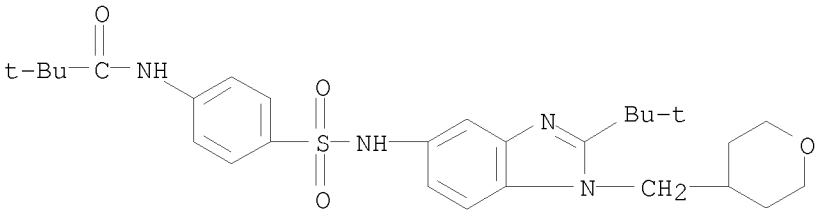


CM 2

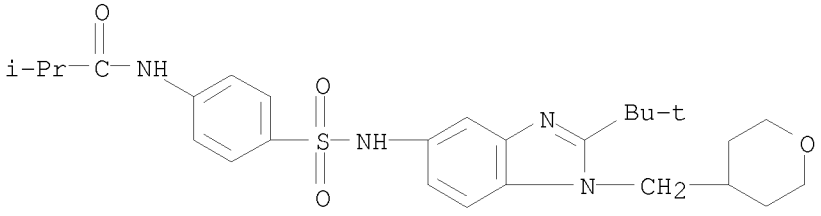
CRN 76-05-1
CMF C2 H F3 O2



RN 881417-54-5 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-2,2-dimethyl- (CA INDEX NAME)



RN 881417-55-6 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-2-methyl- (CA INDEX NAME)

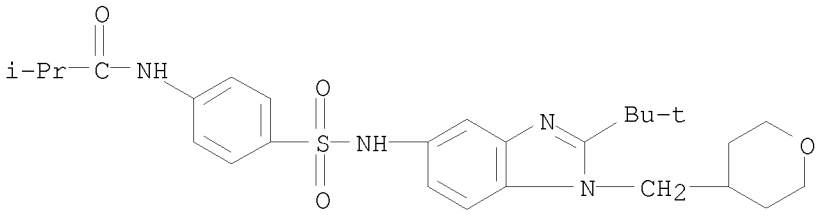


RN 881417-56-7 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-

yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-2-methyl-,
2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

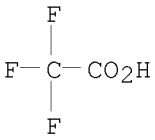
CM 1

CRN 881417-55-6
CMF C27 H36 N4 O4 S



CM 2

CRN 76-05-1
CMF C2 H F3 O2



RN 881417-57-8 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-
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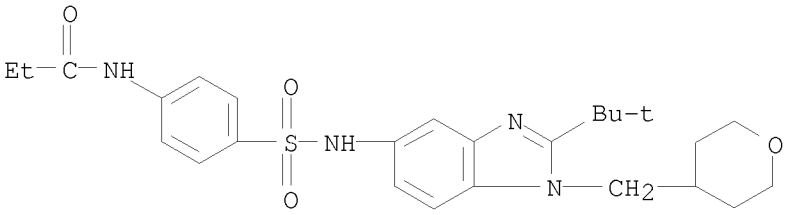

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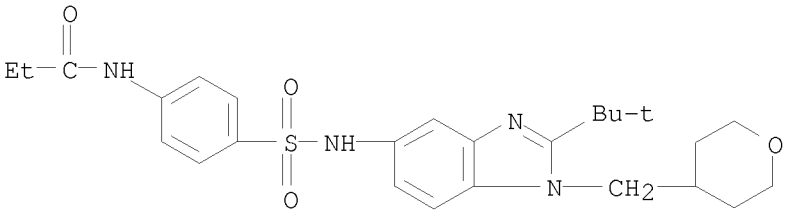
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-
yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-,
2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

CM 1

CRN 881417-57-8
CMF C26 H34 N4 O4 S



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CRN 76-05-1
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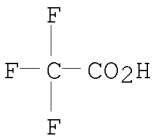

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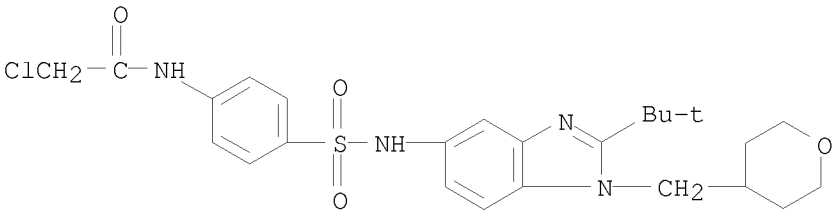
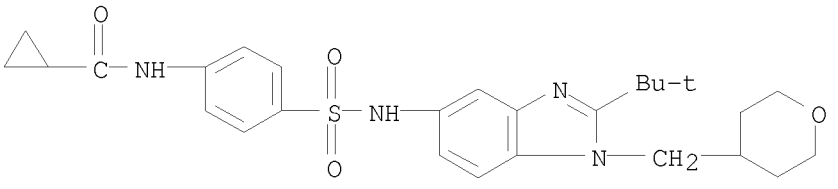
CN Acetamide, 2-chloro-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-60-3 HCAPLUS
CN Cyclopropanecarboxamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-61-4 HCAPLUS

CN Cyclopropanecarboxamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

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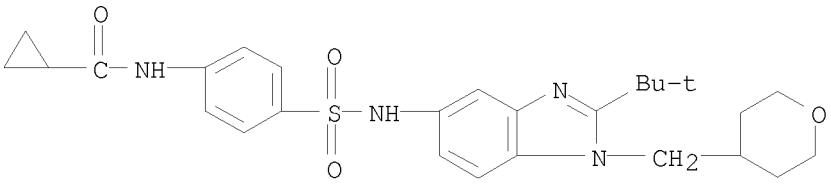
CRN 881417-60-3
CMF C27 H34 N4 O4 S



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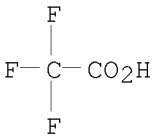
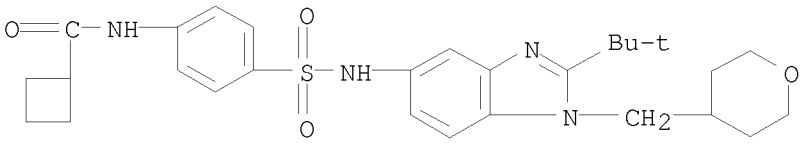
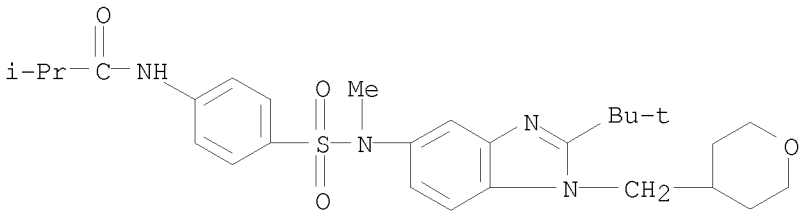
CRN 76-05-1
CMF C2 H F3 O2



RN 881417-62-5 HCAPLUS
CN Cyclobutanecarboxamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-63-6 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-2-methyl- (CA INDEX NAME)



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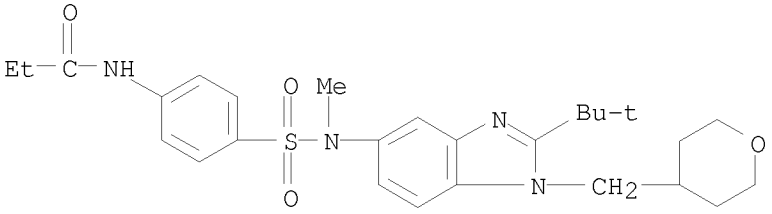
CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)



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CN Propanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

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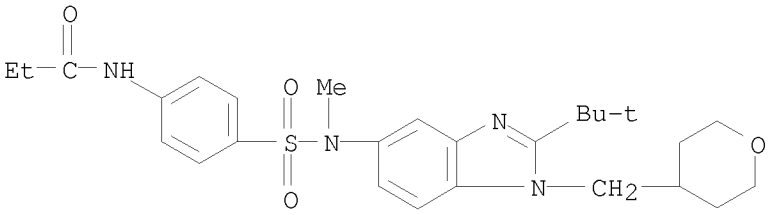
CRN 881417-64-7
CMF C27 H36 N4 O4 S



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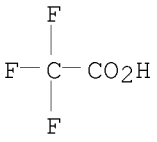

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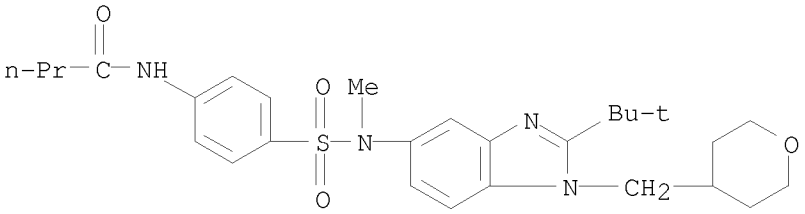
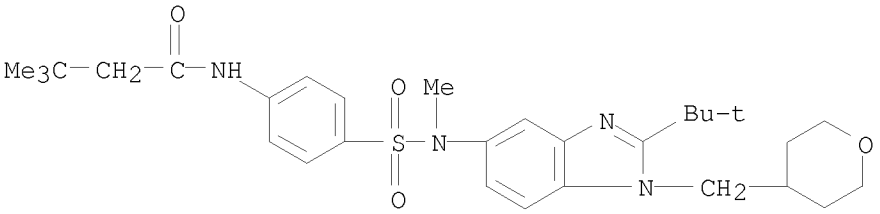
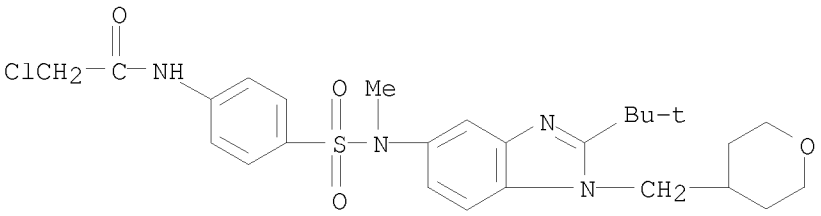
CN Butanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-67-0 HCAPLUS
CN Butanamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-3,3-dimethyl- (CA INDEX NAME)

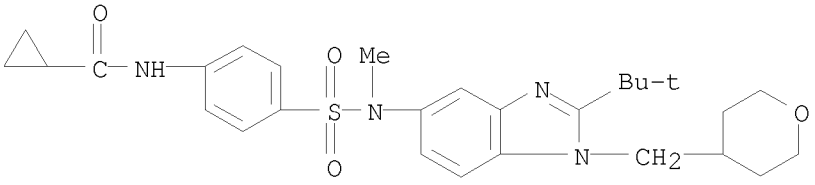


RN 881417-68-1 HCAPLUS
CN Acetamide, 2-chloro-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)

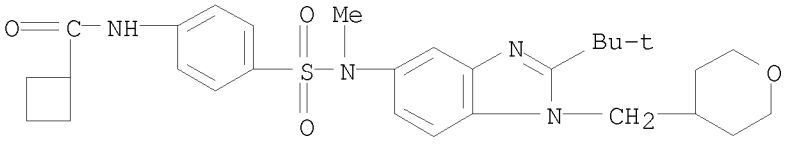


RN 881417-69-2 HCAPLUS

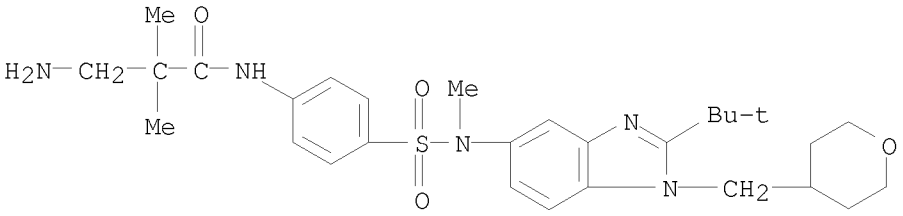
CN Cyclopropanecarboxamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)



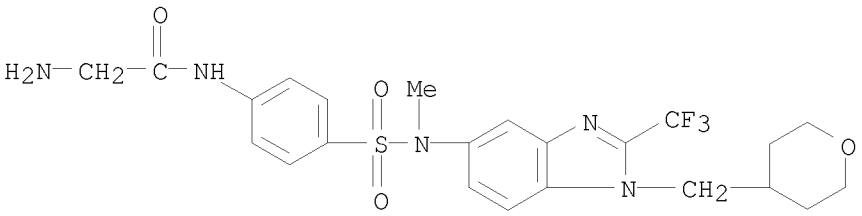
RN 881417-70-5 HCAPLUS
CN Cyclobutanecarboxamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-73-8 HCAPLUS
CN Propanamide, 3-amino-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-2,2-dimethyl- (CA INDEX NAME)



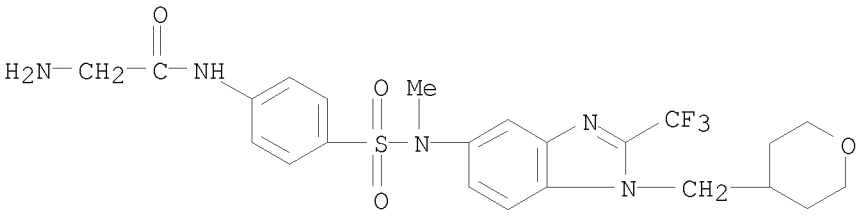
RN 881417-74-9 HCAPLUS
CN Acetamide, 2-amino-N-[4-[[methyl[1-[(tetrahydro-2H-pyran-4-yl)methyl]-2-(trifluoromethyl)-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-75-0 HCAPLUS
CN Acetamide, 2-amino-N-[4-[[methyl[1-[(tetrahydro-2H-pyran-4-yl)methyl]-2-(trifluoromethyl)-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

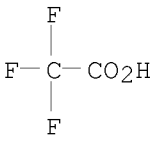
CM 1

CRN 881417-74-9
CMF C23 H26 F3 N5 O4 S

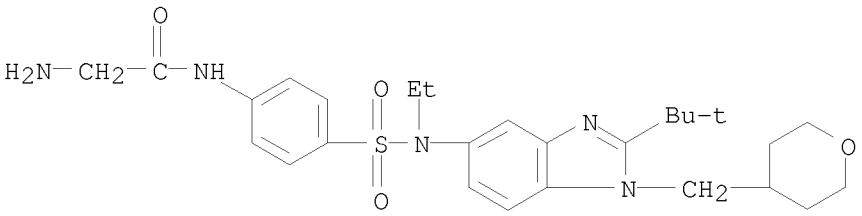


CM 2

CRN 76-05-1
CMF C2 H F3 O2



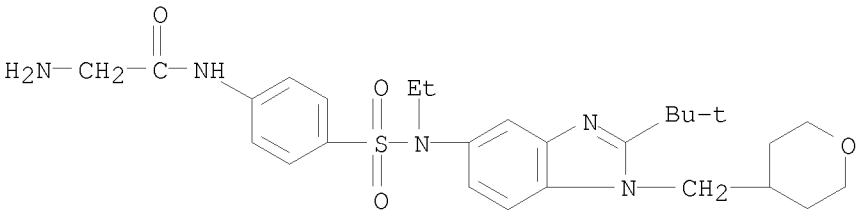
RN 881417-76-1 HCAPLUS
CN Acetamide, 2-amino-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]ethylamino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-77-2 HCAPLUS
CN Acetamide, 2-amino-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]ethylamino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

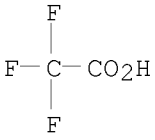
CM 1

CRN 881417-76-1
CMF C27 H37 N5 O4 S

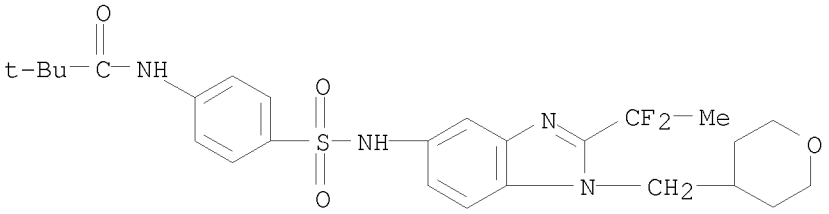


CM 2

CRN 76-05-1
CMF C2 H F3 O2



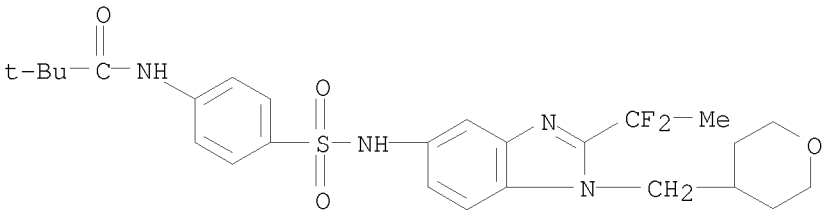
RN 881417-78-3 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-2,2-dimethyl- (CA INDEX NAME)



RN 881417-79-4 HCAPLUS
CN Propanamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-2,2-dimethyl-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

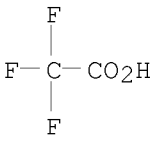
CM 1

CRN 881417-78-3
CMF C26 H32 F2 N4 O4 S

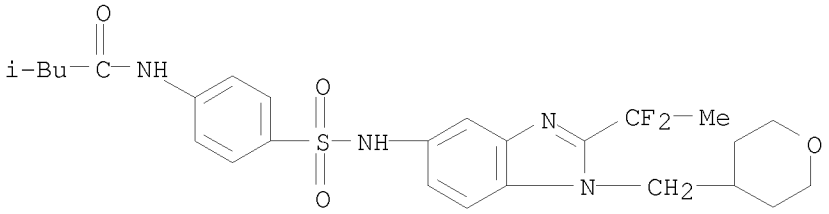


CM 2

CRN 76-05-1
CMF C2 H F3 O2



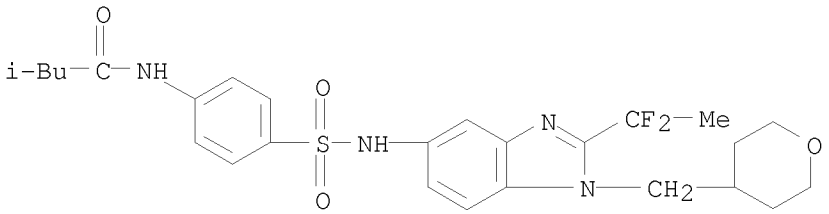
RN 881417-80-7 HCAPLUS
CN Butanamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-3-methyl- (CA INDEX NAME)



RN 881417-81-8 HCAPLUS
CN Butanamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-3-methyl-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

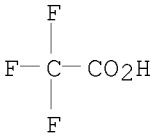
CM 1

CRN 881417-80-7
CMF C26 H32 F2 N4 O4 S

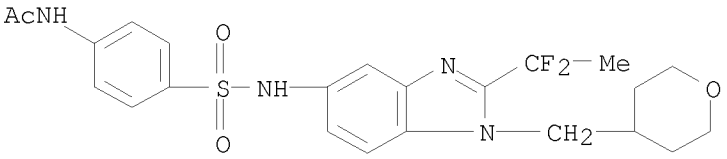


CM 2

CRN 76-05-1
CMF C2 H F3 O2



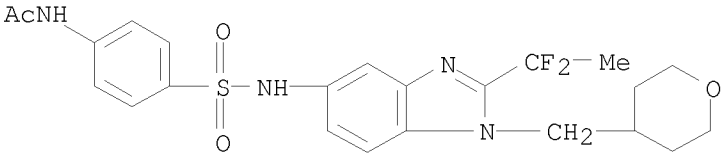
RN 881417-82-9 HCAPLUS
CN Acetamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]- (CA INDEX NAME)



RN 881417-83-0 HCAPLUS
CN Acetamide, N-[4-[[[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]amino]sulfonyl]phenyl]-, 2,2,2-trifluoroacetate (1:1) (CA INDEX NAME)

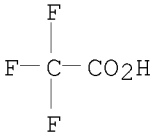
CM 1

CRN 881417-82-9
CMF C23 H26 F2 N4 O4 S

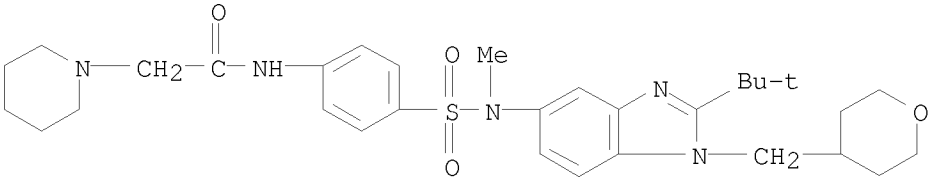


CM 2

CRN 76-05-1
CMF C2 H F3 O2

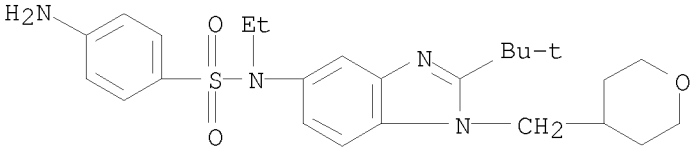


RN 881417-84-1 HCAPLUS
CN 1-Piperidineacetamide, N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]- (CA INDEX NAME)

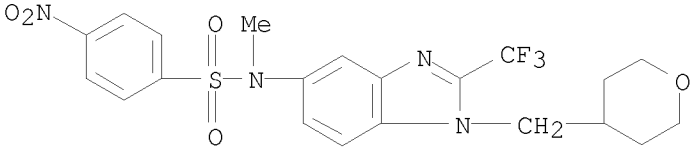


IT 849349-65-1P 849350-25-0P 849350-26-1P
849351-26-4P 849351-27-5P 849351-54-8P
881417-86-3P 881417-87-4P 881417-95-4P
881417-96-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of benzimidazole derivs. and their cannabinoid receptor binding affinity and use in therapy, such as pain management)

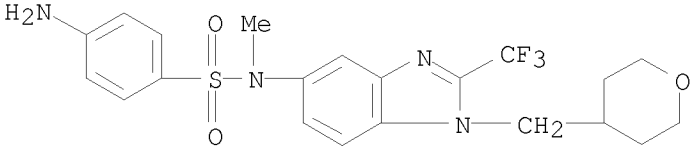
RN 849349-65-1 HCAPLUS
CN Benzenesulfonamide, 4-amino-N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-ethyl- (CA INDEX NAME)



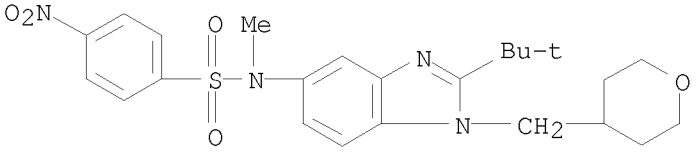
RN 849350-25-0 HCAPLUS
CN Benzenesulfonamide, N-methyl-4-nitro-N-[1-[(tetrahydro-2H-pyran-4-yl)methyl]-2-(trifluoromethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)



RN 849350-26-1 HCAPLUS
CN Benzenesulfonamide, 4-amino-N-methyl-N-[1-[(tetrahydro-2H-pyran-4-yl)methyl]-2-(trifluoromethyl)-1H-benzimidazol-5-yl]- (CA INDEX NAME)

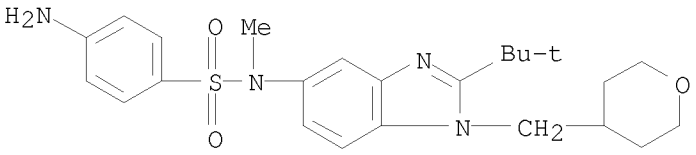


RN 849351-26-4 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-methyl-4-nitro- (CA INDEX NAME)

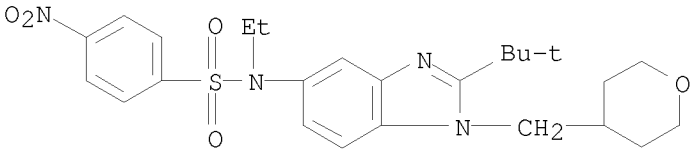


RN 849351-27-5 HCAPLUS

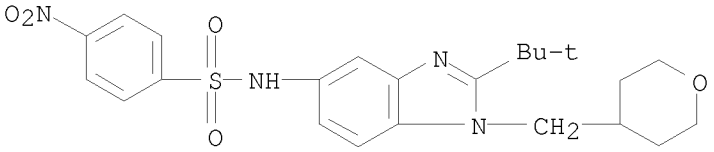
CN Benzenesulfonamide, 4-amino-N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-methyl- (CA INDEX NAME)



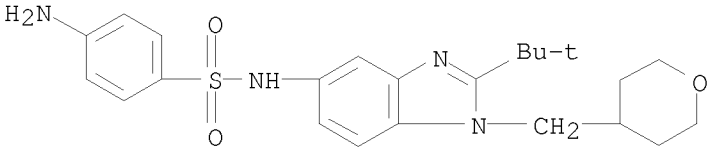
RN 849351-54-8 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-ethyl-4-nitro- (CA INDEX NAME)



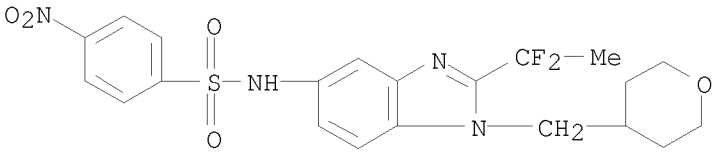
RN 881417-86-3 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-4-nitro- (CA INDEX NAME)



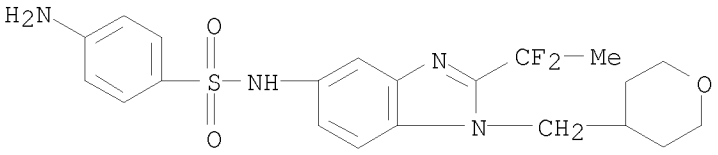
RN 881417-87-4 HCAPLUS
CN Benzenesulfonamide, 4-amino-N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]- (CA INDEX NAME)



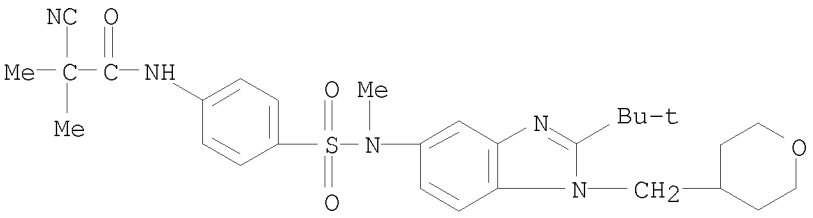
RN 881417-95-4 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-4-nitro- (CA INDEX NAME)



RN 881417-96-5 HCAPLUS
CN Benzenesulfonamide, 4-amino-N-[2-(1,1-difluoroethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]- (CA INDEX NAME)



IT 881417-72-7P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of benzimidazole derivs. and their cannabinoid receptor binding affinity and use in therapy, such as pain management)
RN 881417-72-7 HCAPLUS
CN Propanamide, 2-cyano-N-[4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]phenyl]-2-methyl- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:295541 HCAPLUS
DOCUMENT NUMBER: 144:350678
TITLE: Preparation of benzimidazole derivatives for treatment of pain
INVENTOR(S): Page, Daniel; Liu, Ziping; Tremblay, Maxime; Walpole, Christopher; Yang, Hua
PATENT ASSIGNEE(S): AstraZeneca AB, Swed.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006033628	A1	20060330	WO 2005-SE1400	20050922
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
WO 2005030761	A1	20050407	WO 2004-GB4112	20040924
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EP 1797076	A1	20070620	EP 2005-786401	20050922
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JP 2008514590	T	20080508	JP 2007-533430	20050922
IN 2007DN01629	A	20070803	IN 2007-DN1629	20070228
PRIORITY APPLN. INFO.:			WO 2004-GB4112 A	20040924
			WO 2004-GB4132 A	20040924
			US 2004-640498P P	20041230
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			WO 2005-SE1400 W	20050922

OTHER SOURCE(S): MARPAT 144:350678
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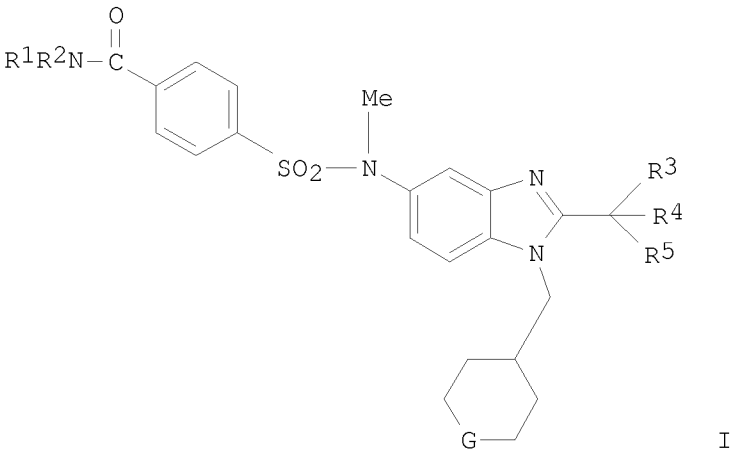


I

AB Benzimidazoles I (G = O, Cf2; R1, R2 = H, OH, alkyl, alkoxy, hydroxyalkyl; R3,R4, R5 = F, Me) and their pharmaceutically acceptable salts are prepared They are useful in therapy, in particular in the management of pain. Thus, reaction of 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl](methyl)amino]sulfonyl}benzoic acid with ethanolamine in DMF in the presence of diisopropylethylamine at room temperature for 3 h gave 62% 4-{[[2-tert-butyl-1-(tetrahydro-2H-pyran-4-ylmethyl)-1H-benzimidazol-5-yl](methyl)amino]sulfonyl}-N-(2-hydroxyethyl)benzamide as trifluoroacetate salt.

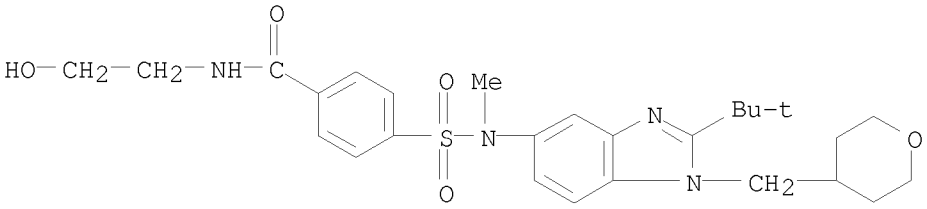
IT 881016-94-0P 881016-97-3P 881017-00-1P
881017-03-4P 881017-06-7P 881017-09-0P
881017-12-5P 881017-15-8P 881017-18-1P
881017-21-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of benzimidazole derivs. for treatment of pain)

RN 881016-94-0 HCAPLUS

CN Benzamide, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-N-(2-hydroxyethyl)-, 2,2,2-trifluoroacetate (1:?) (CA INDEX NAME)

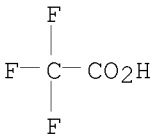
CM 1

CRN 881016-93-9
CMF C27 H36 N4 O5 S



CM 2

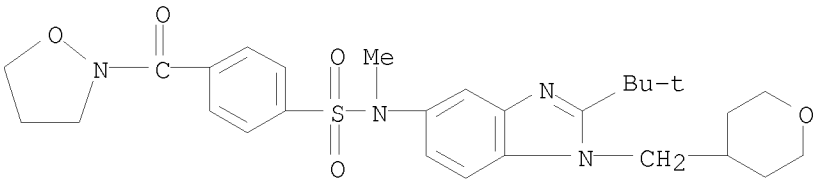
CRN 76-05-1
CMF C2 H F3 O2



RN 881016-97-3 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-4-(2-isoxazolidinylcarbonyl)-N-methyl-, 2,2,2-trifluoroacetate (1:2) (CA INDEX NAME)

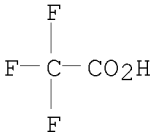
CM 1

CRN 881016-96-2
CMF C28 H36 N4 O5 S



CM 2

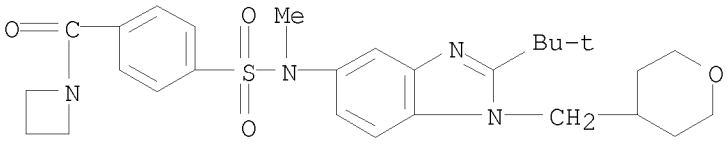
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-00-1 HCAPLUS
CN Benzenesulfonamide, 4-(1-azetidinylcarbonyl)-N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-methyl-, 2,2,2-trifluoroacetate (5:7) (CA INDEX NAME)

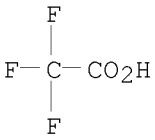
CM 1

CRN 881016-99-5
CMF C28 H36 N4 O4 S



CM 2

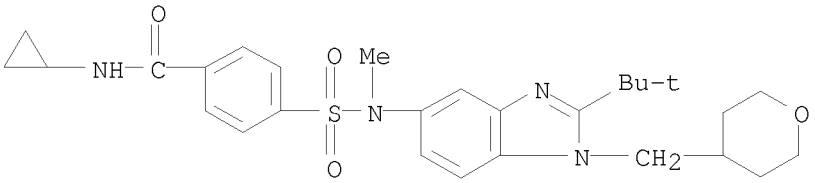
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-03-4 HCAPLUS
CN Benzamide, N-cyclopropyl-4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-, 2,2,2-trifluoroacetate (5:3) (CA INDEX NAME)

CM 1

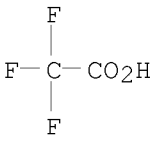
CRN 881017-02-3
CMF C28 H36 N4 O4 S



CM 2

CRN 76-05-1

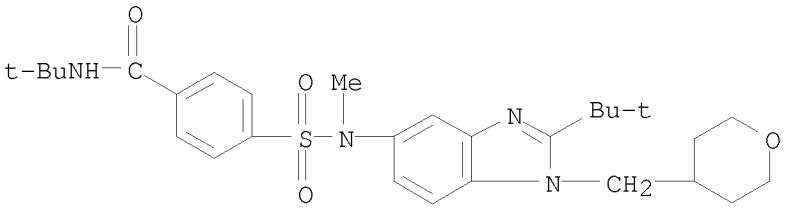
CMF C2 H F3 O2



RN 881017-06-7 HCAPLUS
CN Benzamide, N-(1,1-dimethylethyl)-4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-, 2,2,2-trifluoroacetate (1:?) (CA INDEX NAME)

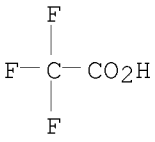
CM 1

CRN 881017-05-6
CMF C29 H40 N4 O4 S



CM 2

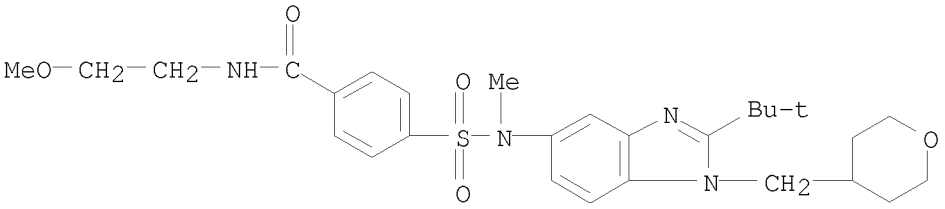
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-09-0 HCAPLUS
CN Benzamide, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-N-(2-methoxyethyl)-, 2,2,2-trifluoroacetate (2:5) (CA INDEX NAME)

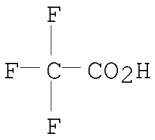
CM 1

CRN 881017-08-9
CMF C28 H38 N4 O5 S



CM 2

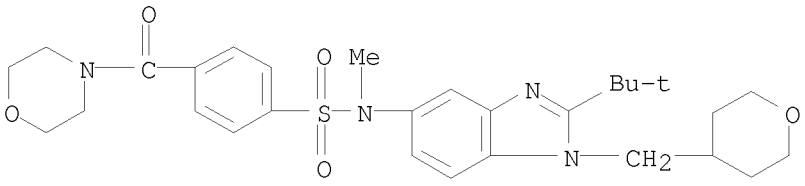
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-12-5 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-N-methyl-4-(4-morpholinylcarbonyl)-, 2,2,2-trifluoroacetate (10:27) (CA INDEX NAME)

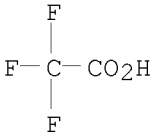
CM 1

CRN 881017-11-4
CMF C29 H38 N4 O5 S



CM 2

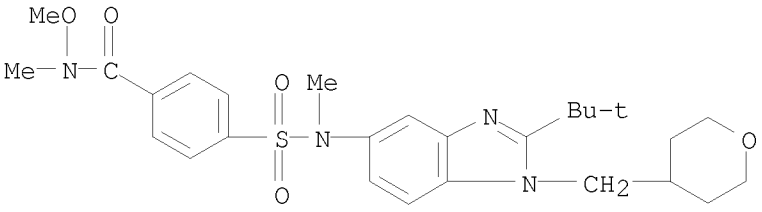
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-15-8 HCAPLUS
CN Benzamide, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-N-methoxy-N-methyl-, 2,2,2-trifluoroacetate (1:?) (CA INDEX NAME)

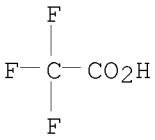
CM 1

CRN 881017-14-7
CMF C27 H36 N4 O5 S



CM 2

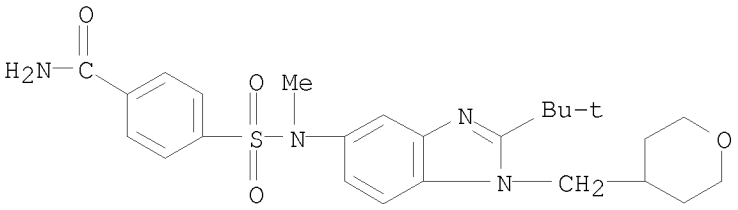
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-18-1 HCAPLUS
CN Benzamide, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-, 2,2,2-trifluoroacetate (1:?) (CA INDEX NAME)

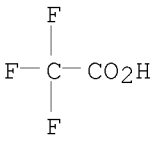
CM 1

CRN 881017-17-0
CMF C25 H32 N4 O4 S



CM 2

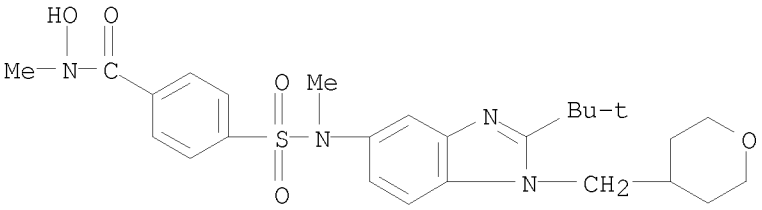
CRN 76-05-1
CMF C2 H F3 O2



RN 881017-21-6 HCAPLUS
CN Benzamide, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]-N-hydroxy-N-methyl-, 2,2,2-trifluoroacetate (1:?) (CA INDEX NAME)

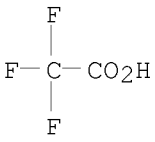
CM 1

CRN 881017-20-5
CMF C26 H34 N4 O5 S

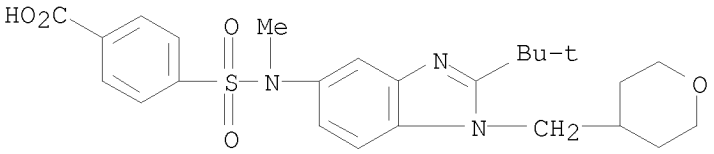


CM 2

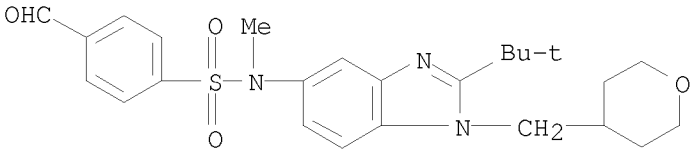
CRN 76-05-1
CMF C2 H F3 O2



IT 881017-34-1P 881017-36-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of benzimidazole derivs. for treatment of pain)
RN 881017-34-1 HCAPLUS
CN Benzoic acid, 4-[[[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]methylamino]sulfonyl]- (CA INDEX NAME)



RN 881017-36-3 HCAPLUS
CN Benzenesulfonamide, N-[2-(1,1-dimethylethyl)-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-benzimidazol-5-yl]-4-formyl-N-methyl- (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	121.77	1223.47

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-14.76	-32.80

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